Date	Type	Search
9 July 2003	A	Koll
3 August 2004	R	semantic meaning
	R	semantic meaning and probability
	R	document classification and semantic meaning
	SD	document classification and semantic meaning
	SD	document classification and semantic

	Hits	Search Text	DBs	Time Stamp ▽
1	0	707/100.ccls. and ((semantic or lexical) adj distance)	USPAT; US-PGPUB	2004/08/11 17:08
2	9	707/104.1.ccls. and ((semantic or lexical) adj distance)	USPAT; US-PGPUB	2004/08/11 17:08
3	16	707/5.ccls. and ((semantic or lexical) adj distance)	USPAT; US-PGPUB	2004/08/11 17:07
4	335	707/5.ccls. and (semantic or lexical)	USPAT; US-PGPUB	2004/08/11 16:54
5	1	"WO 2003098388 A2".did.	DERWENT	2004/08/06 13:06
6	1195436	WO "2003098388" A2.did.	DERWENT	2004/08/06 13:05
7	0	"WO 03/098388"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/06 13:04
8	0	WO-03/098388-A2	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/06 13:04
9	22	((semantic$2 or lexical$2) adj (meaning or vector or position)) with possib$8	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/06 13:03
10	5	((semantic$2 or lexical$2) adj (meaning or vector or position)) with probabilit$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/06 09:53
11	423	semantic adj meaning	USPAT; US-PGPUB	2004/08/03 14:58
12	2	(semantic adj meaning) and (document adj classif$9)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/03 14:58

	Hits	Search Text	DBs	Time Stamp▽
13	25	(US "6609087" B1 US "6453315" B1 US "6421675" B1 US "6324519" B1 US "6314419" B1 US "6311194" B1 US "6304864" B1 US "6298348" B1 US "6289353" B1 US "6289342" B1 US "6282538" B1 US "6278967" B1 US "6269361" B1 US "6233575" B1 US "6182063" B1 US "6175829" B1 US "6173261" B1 US "6169986" B1 US "6167397" A US "6161127" A US "6134553" A US "6134532" A US "6122647" A US "6119164" A US "6101515" A US "6101491" A US "6094649" A US "6073130" A US "6067552" A US "6055573" A US "6044375" A US "6038560" A	USPAT; US-PGPUB	2004/08/03 14:41
14	3	((semantic$3 or lexical$3) adj meaning) with probabilit$5	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/08/03 14:22

	Hits	Search Text	DBs	Time Stamp▽
15	20	(US "6453315" B1 US "6421675" B1 US "6324519" B1 US "6314419" B1 US "6311194" B1 US "6304864" B1 US "6298348" B1 US "6289353" B1 US "6289342" B1 US "6282538" B1 US "6278967" B1 US "6269361" B1 US "6233575" B1 US "6182063" B1 US "6175829" B1 US "6173261" B1 US "6169986" B1 US "6167397" A US "6161127" A US "6134553" A US "6134532" A US "6122647" A US "6119164" A US "6101515" A US "6101491" A US "6094649" A US "6073130" A US "6067552" A US "6055573" A US "6044375" A US "6038560" A US "5987457" A	USPAT; US-PGPUB	2003/07/11 11:29

	Hits	Search Text	DBs	Time Stamp▽
16	36	(US "6453315" B1 US "6421675" B1 US "6324519" B1 US "6314419" B1 US "6311194" B1 US "6304864" B1 US "6298348" B1 US "6289353" B1 US "6289342" B1 US "6282538" B1 US "6278967" B1 US "6269361" B1 US "6233575" B1 US "6182063" B1 US "6175829" B1 US "6173261" B1 US "6169986" B1 US "6167397" A US "6161127" A US "6134553" A US "6134532" A US "6122647" A US "6119164" A US "6101515" A US "6101491" A US "6094649" A US "6073130" A US "6067552" A US "6055573" A US "6044375" A US "6038560" A US "5987457" A	USPAT; US-PGPUB	2003/07/11 11:28

	Hits	Search Text	DBs	Time Stamp▽
17	24	(US "6453315" B1 US "6421675" B1 US "6324519" B1 US "6314419" B1 US "6311194" B1 US "6304864" B1 US "6298348" B1 US "6289353" B1 US "6289342" B1 US "6282538" B1 US "6278967" B1 US "6269361" B1 US "6233575" B1 US "6182063" B1 US "6175829" B1 US "6173261" B1 US "6169986" B1 US "6167397" A US "6161127" A US "6134553" A US "6134532" A US "6122647" A US "6119164" A US "6101515" A US "6101491" A US "6094649" A US "6073130" A US "6067552" A US "6055573" A US "6044375" A US "6038560" A US "5987457" A	USPAT; US-PGPUB	2003/07/11 10:54
18	583	document$1 adj (database or repository or library or archive) and retriev$2 and (scan$3 or ocr)	USPAT; US-PGPUB	2003/07/11 10:31
19	106	document$1 adj (database or repository or library or archive) and retriev$2 and (scan$3 or ocr) and (semantic or lexical)	USPAT; US-PGPUB	2003/07/11 10:31
20	33	((price or charge or cost) near (keyword$3))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 13:20
21	21	((auction) near (quer$3))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 13:19
22	203	((cost or price or auction) near (quer$3))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 13:17

	Hits	Search Text	DBs	Time Stamp▽
23	703	((cost or price or value) near (quer$3))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 13:14
24	120	((cost or price or value) near (keyword$1 or concept$1)) and (semantic$3 or lexical$1)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 13:13
25	3	((sell or auction) adj (keyword$1 or concept$1)) and (semantic$3 or lexical$1)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 12:24
26	39	((semantic$2 or lexical)) same (cost or price) and document and 707/$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 12:22
27	550	((semantic$2 or lexical)) and document and 707/$.ccls. and (cost or price)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 12:02
28	52	((semantic$2 or lexical) adj database$2) and (cost or price)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 12:01
29	4577	((semantic$2 or lexical)) and (cost or price)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 12:01
30	9	((semantic$2 or lexical) adj database$2) and (advertisement or ad or banner)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/07/10 11:50
31	6	6298348.URPN.	USPAT	2003/07/10 11:49
32	5	6298348.URPN. and (cost or price)	USPAT	2003/07/10 11:49
33	18	("4546382" | "4833308" | "4972504" | "5128752" | "5201010" | "5223924" | "5227874" | "5237620" | "5285278" | "5305196" | "5327508" | "5388165" | "5430644" | "5448471" | "5592560" | "5621812" | "5638457" | "5642485" | "5644723" | "5649114" | "5659469" | "5675662" | "5687322" | "5724521" | "5754939" | "5774170" | "5774868" | "5794210" | "5832457" | "5970469" | "5974399" | "6009410" | "6014634" | "6026370" | "6035280" | "6055573" | "6185541" | "6216129").PN. and advertise$8	USPAT	2003/07/10 11:33

	Hits	Search Text	DBs	Time Stamp▽
34	17	("4546382" | "4833308" | "4972504" | "5128752" | "5201010" | "5223924" | "5227874" | "5237620" | "5285278" | "5305196" | "5327508" | "5388165" | "5430644" | "5448471" | "5592560" | "5621812" | "5638457" | "5642485" | "5644723" | "5649114" | "5659469" | "5675662" | "5687322" | "5724521" | "5754939" | "5774170" | "5774868" | "5794210" | "5832457" | "5970469" | "5974399" | "6009410" | "6014634" | "6026370" | "6035280" | "6055573" | "6185541" | "6216129").PN. and advertise$8 and (price or cost)	USPAT	2003/07/10 11:33
35	38	("4546382" | "4833308" | "4972504" | "5128752" | "5201010" | "5223924" | "5227874" | "5237620" | "5285278" | "5305196" | "5327508" | "5388165" | "5430644" | "5448471" | "5592560" | "5621812" | "5638457" | "5642485" | "5644723" | "5649114" | "5659469" | "5675662" | "5687322" | "5724521" | "5754939" | "5774170" | "5774868" | "5794210" | "5832457" | "5970469" | "5974399" | "6009410" | "6014634" | "6026370" | "6035280" | "6055573" | "6185541" | "6216129").PN.	USPAT	2003/07/10 11:32
36	1	5325298.pn.	USPAT; US-PGPUB	2003/07/09 10:26
37	1	6453315.pn.	USPAT; US-PGPUB	2003/07/09 10:26
38	1	5325289.pn.	USPAT; US-PGPUB	2003/07/09 09:42
39	1	5619709.pn.	USPAT; US-PGPUB	2003/07/09 09:25
40	11	(banner adj ads) and bidding	USPAT; US-PGPUB	2002/10/28 12:18
41	80	internet and advertisement$1 and bid$1	USPAT	2002/10/28 12:18
42	3	internet same advertisement$1 same bid$1	USPAT	2002/10/28 12:18
43	1	6453315.pn.	USPAT; US-PGPUB	2002/10/24 11:03
44	10	("6101491" "6182063" "6134532" "6269361" "6026429" "6041326" "6094649" "5905862" "5999940" "5933822").pn.	USPAT; US-PGPUB	2002/01/31 09:01
45	37	((advertisement or (banner adj ad)) with quer$4) and (price or cost)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/01/30 17:07

	Hits	Search Text	DBs	Time Stamp▽
46	57	(advertisement or (banner adj ad)) with quer$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/01/30 17:06
47	110	(advertisement or (banner adj ad)) same quer$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/01/30 16:33
48	644	semantic$2 and (advertisement or ad or banner)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/01/30 16:31
49	0	(semantic adj distance) and (advertisement or ad or banner)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/01/30 16:30
50	35	semantic adj distance	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/01/30 16:29
51	1	("4839853").pn.	USPAT; US-PGPUB	2002/01/30 12:00
52	10	("6287765" "6128651" "6161127" "5778363" "5857179" "5970489" "6134553" "4358824" "5278980" "5440481").pn.	USPAT; US-PGPUB	2002/01/30 11:37
53	10	("6163778" "6119164" "6304864" "5845278" "6006225" "6009459" "6125361" "6141653" "6169986" "6321228").pn.	USPAT; US-PGPUB	2002/01/30 11:10

	Hits	Search Text	DBs	Time Stamp▽
54	10	("5886698" "5982369" "6055538" "6067552" "6122647" "6167397" "6311194" "6332135" "6336105" "6338050").pn.	USPAT; US-PGPUB	2002/01/29 15:34
55	10	("6253193" "5987457" "6044375" "6247021" "5499360" "5848410" "5826258" "5963949" "6073170" "6233575").pn.	USPAT; US-PGPUB	2002/01/29 15:34

Today's Date: 3 Aug 2004

What date would you like to use to limit the search?

Priority Date: 22 Sept 1999   Other:

Name Luke J Wassum

AU 2177   **Examiner #** 77895

Room # PK2-4D41   **Phone** 305-5706

Serial # 09/493701

Format for Search Results (Circle One):

(PAPER)   DISK   EMAIL

Where have you searched so far?

(USP) DWPI EPO JPO ACM IBM TDB

IEEE INSPEC SPI   Other _____

Is this a "Fast & Focused" Search Request? (Circle One) (YES)   NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at http://ptoweb/patents/stic/stic-tc2100.htm.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

A system of locating text/documents whereby text/documents are entered into a database and parsed with possible semantic meanings identified, each with an associated probability,

allowing the database to be queried and retrieving documents based on the semantic distance from the query terms and the ~~document~~ text/documents, taking into account the probability values and associated semantic meanings of the text/documents.

STIC Searcher Tinese Esterfield   **Phone** 308-7795

Date picked up 7/4/04 9:15 am   **Date Completed** 7/4/04 12:00 pm

```
Set      Items     Description
S1     3144222     DOCUMENT? OR TEXT OR DATA OR INFORMATION
S2       48705     CONCEPT? OR IDEA? OR NOTION? OR PERCEPTION? OR THOUGHT?
S3     4425264     ORGANIZ? OR  ORGANIS? OR CLASSIF? OR GROUP? OR CATEGOR? OR
                   LAYOUT? OR ORDER? OR ARRANGEMENT? OR CLUSTER? OR MATCH? OR IN-
                   SERT? OR ENTER OR POST? OR PLACE? OR PLACING
S4     1471182     DATABASE? OR DATA()BASE? OR SOFTWARE OR PROGRAM? OR APPLIC-
                   ATION? OR FILE? OR LEXICON OR DICTIONARY OR GLOSSARY OR VOCAB-
                   ULARY OR WORDBOOK OR TERMINOLOGY OR VOCABULARY
S5     1456160     PARSE? OR PARSING OR FRAGMENT? OR CHUNK? OR SEPARATE? OR B-
                   REAKOUT OR BREAK()OUT OR MAPPING OR ANALYZ? OR ANALYS? OR ITE-
                   MIZATION OR ENUMERAT? OR ORGANIZ? OR ORGANIS? OR MAPPED OR MA-
                   PS
S6        2294     SEMANTIC OR  SEMANTICS
S7      825998     MEANING OR CONCEPT? OR DEFINITION OR DEFINE? OR DEFINING OR
                   DESCRIB? OR STIPULAT? OR DESIGNAT?
S8     5967637     ASSOCIATE? OR LINK??? OR MATCH??? OR RELAT? OR JOIN? OR CO-
                   NNECT? OR INTEGRAT?
S9      139779     PROBABILITY OR CHANCE OR LIKELIHOOD OR ODDS OR POSSIBILITY
                   OR PROSPECT?
S10    1207453     RETRIEV? OR QUER? OR LOOKUP OR LOOK()UP OR SEARCH? OR SEEK?
                   OR QUER? OR MATCH? OR QUEST? OR PURSU? OR FIND? OR RETRIEV? -
                   OR FILTER?
S11    2855951     DISTANCE OR VALUE OR SPACE OR RELATIONSHIP OR CALCULAT? OR
                   DYNAMIC()SCALING()FACTOR?
S12     190653     (S1 OR S2) AND S3 AND S4
S13        131     S12 AND S5 AND S6 AND S7
S14        250     S8 (3N) S9 AND S10 AND S11
S15          1     S13 AND S14
S16         34     S13 AND S11
S17          3     S14 AND S6 AND S7
S18         11     S6 AND S7 AND S8 AND S9 AND S11
S19         41     S15 OR S16 OR S17 OR S18
S20         36     S19 AND IC=G06F?
File 347:JAPIO Nov 1976-2004/Apr(Updated 040802)
        (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200449
        (c) 2004  Thomson Derwent
```

20/5/4   (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

06699291   **Image available**
DEVICE AND METHOD FOR GENERATING THESAURUS AND STORAGE MEDIUM RECORDING
THESAURUS GENERATION **PROGRAM**

PUB. NO.:   2000-285122 [JP 2000285122 A]
PUBLISHED: October 13, 2000 (20001013)
INVENTOR(s):   NISHIO YUZO
APPLICANT(s): JAPAN RESEARCH INSTITUTE LTD
APPL. NO.:   11-089565 [JP 9989565]
FILED: March 30, 1999 (19990330)
INTL CLASS: **G06F-017/30 ; G06F-017/28**

ABSTRACT
PROBLEM TO BE SOLVED: To reduce the burden of work for registering a word
on a thesaurus and registering **data** indicating a **semantic relationship**
.

SOLUTION: A sentence inputted while using an input device is **analyzed** by
morpheme **analysis** and a word (noun) is extracted. When the extracted word
is not registered on the thesaurus yet, that word is newly registered on
the thesaurus. The inclusive relation of a character code is decided
between the word newly registered on the thesaurus and the word already
registered on the thesaurus. Corresponding to the decision result, the
relation **data** indicating the **relationship** of a high- **order** (BT) or
low- **order** (NT) **concept** between the newly registered word and the
registered word are registered on the thesaurus.

20/5/5   (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO
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05888706   **Image available**
DEVICE AND METHOD CANCELING **SEMANTIC** AMBIGUITY

PUB. NO.:   10-171806 [JP 10171806 A]
PUBLISHED: June 26, 1998 (19980626)
INVENTOR(s):   RI KO
               TAKEUCHI JUNICHI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
               (Japan)
APPL. NO.:   08-352633 [JP 96352633]
FILED: December 13, 1996 (19961213)
INTL CLASS: [6] **G06F-017/27 ;** G10L-003/00
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 42.5
               (ELECTRONICS -- Equipment)
JAPIO KEYWORD: R107 (INFORMATION PROCESSING -- OCR & OMR Optical Readers);
               R108 (INFORMATION PROCESSING -- Speech Recognition &
               Synthesis)

ABSTRACT
PROBLEM TO BE SOLVED: To attain high accuracy and high performance
ambiguity cancelation by canceling ambiguity while considering dependence
relation between evidences appearing in contexts around a word in
question.

SOLUTION: A statistic processing part 2 **calculates** four kinds of
statistic information, i.e., the appearance **probability** of each word
meaning , the appearance **probability** of evidences appearing in contexts
around each word **meaning** , the co-occurrence **probability** between two
evidences, and the mutual information quantity between two evidences, of a

· word in question in an inputted text and stores the **calculated** results in a statistic information storing part 3. A **semantic** ambiguity canceling part 5 specifies evidences appearing in contexts around the word in question, reads out the statistic information of four kinds from the storing part 3 and learns **probability** dependence consisting of evidences appearing in the contexts around each **meaning** of the word in question. Then, conditional **probability** under the conditions of contexts around each **meaning** of the word in question is **calculated** based on the learned **probability** dependence and the **meaning** of the word in question having the highest **calculated** conditional **probability** is outputted to an output part 6.

20/5/6   (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO
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05720378   **Image available**
CONCEPT SIMILARITY DISCRIMINATION METHOD

PUB. NO.:   10-003478 [JP 10003478 A]
PUBLISHED: January 06, 1998 (19980106)
INVENTOR(s):   NAKAMURA KEISUKE
                MATSUZAWA KAZUMITSU
                KASAHARA KANAME
APPLICANT(s):   NIPPON TELEGR & TELEPH CORP <NTT> [000422] (A Japanese
                Company or Corporation), JP (Japan)
APPL. NO.:   08-154466 [JP 96154466]
FILED: June 14, 1996 (19960614)
INTL CLASS: [6] G06F-017/28
JAPIO CLASS: 45.4 (**INFORMATION** PROCESSING -- Computer **Applications**)

ABSTRACT
PROBLEM TO BE SOLVED: To accurately **calculate** the similarity between the optional combinations of **concepts** and also to accurately discriminate the similarity of **concepts** by **calculating** a **semantic** **distance** between **concepts** based on the difference of probability distributions.
SOLUTION: The **text** **data** T **described** in a natural language or a form langauge and two **concept** **data** (a) and (b) are inputted. Thus, a partial **text** production process part A2 applies a morpheme **analysis** to the input **data** T and produces a partial **text** C, and a frequency distribution production process part A3 totalizes the texts C about all combinations of language sets W to be observed and produces a frequency distribution F. A probability distribution production process part A4 notices the **concepts** (a) and (b) and produces a probability distribution P {Pa (b), Pb (a)}, and a **semantic** **distance** **calculation** part A5 **calculates** a **semantic** **distance** D between both **concepts** (a) and (b) based on the probability distribution P. Then a **category** discrimination process part A6 produces and stores a **category** element correspondence table by a prescribed **category** discrimination rule and based on the **distance** D and then outputs this table via an output part A7.

20/5/7   (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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04978972   **Image available**
METHOD FOR GENERATING DYNAMIC STEP NUMBER **CALCULATING** FORMULA

PUB. NO.:   07-271572 [JP 7271572 A]
PUBLISHED: October 20, 1995 (19951020)
INVENTOR(s):   MATSUMOTO SHUICHI
APPLICANT(s):   HITACHI SOFTWARE ENG CO LTD [472485] (A Japanese Company or
                Corporation), JP (Japan)
APPL. NO.:   06-060471 [JP 9460471]
FILED: March 30, 1994 (19940330)

INTL CLASS: [6] **G06F-009/06** ; **G06F-011/28** ; **G06F-011/34**
JAPIO CLASS: 45.1 (**INFORMATION** PROCESSING -- Arithmetic Sequence Units

ABSTRACT

PURPOSE: To reduce processes, to easily correct a **program** and to
automatically generate the **calculation** formula of a dynamic step number
arranged from a macro point of view by setting generation conditions and
semantic information in the source code of the generation object of an
estimation **calculation** formula beforehand.

CONSTITUTION: In the source code 1 of a source **file** 101, a generation
condition judgement sentence 2, a generation condition setting sentence 3,
a loop factor specifying sentence 4 and a judgement condition **semantic**
specifying sentence 5 set by a user are buried beforehand. A dynamic step
number assembly processing 8 which is the processing **program** of a central
processing unit 100 takes notice of the control structure of the **program** ,
analyzes the source code 1 and assembles the **calculation** formula for
calculating the dynamic step number of respective parts based on the
dynamic step number obtained by the dynamic step number **calculation**
processing 11 of a basic block. Thus, the **calculation** formula of the
dynamic step number for which the **meaning** of repetition and the **meaning**
of case **classification** are easily understandable is generated.

20/5/8   (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO
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04661039   **Image available**
DEVICE FOR **CALCULATING CONCEPTIONAL DISTANCE** BETWEEN WORDS

PUB. NO.:   06-332939 [JP 6332939 A]
PUBLISHED: December 02, 1994 (19941202)
INVENTOR(s):   SEKINE SATOSHI
APPLICANT(s):   MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company
                or Corporation), JP (Japan)
APPL. NO.:   05-119724 [JP 93119724]
FILED: May 21, 1993 (19930521)
INTL CLASS: [5] **G06F-015/38**
JAPIO CLASS: 45.4 (**INFORMATION** PROCESSING -- Computer **Applications**);
                30.2 (MISCELLANEOUS GOODS -- Sports & Recreation

ABSTRACT
PURPOSE: To efficiently acquire **semantic** knowledge concerning a natural
language by **calculating distance** scale as the **conceptional** similarity
of words in the **analysis** and generation processing of the natural
language.

CONSTITUTION: This device is provided with a matrix transformer part 11 for
transforming the **value** of an element to the three kinds of values such as
'true,' 'flase' and 'unknown' from the relation matrix of normalized words
provided from the co-occurence relation or the like of words in a sentence
data base , inter-word **conceptional distance calculation** part 12
for **calculating** the **distance** between the words from the transformed
relation matrix, relation matrix recalculation part 13 for **calculating**
the new relation matrix by utilizing the inter-word **distance calculated**
at the part 12, and the recalculation part 13 is provided with an
interactive relation matrix correction part 14 for manually confirming the
calculated result concerning the truth/false of relation is doubtful in
order to cancel the non-certainness of the **calculated** result.

20/5/9   (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

04233529   **Image available**

PROCESSING SYSTEM FOR EXPRESSING DEGREE IN NATURAL LANGUAGE

ABSTRACT

PURPOSE: To process a phenomenon called 'implication of conversion,' the **semantic relation** between a negative sentence and a source positive sentence, the **possibility** of a question sentence and the answer and the modification **possibility** of a degree modifier adverb, for example, or the like on a computer by exactly **describing** and **calculating** the language action of degree expression.

CONSTITUTION: The **meaning** of a certain degree expression is expressed as a discrete **relative** position in a frame formed by one group of expressions paired with that expression. When expressing the **meaning** of a certain degree expression, both of ideographic **meaning** and **meaning** logically implicated in that degree expression are expressed. Further, when expressing the **meaning** of an expression adding any adjective and any degree modifying element to that adjective, the **meaning** is expressed while being divided into two levels of a level expressing the **meaning** of the adjective itself and a level expressing the **meaning** of the expression added the modifying element.

20/5/10   (Item 10 from file: 347)

04151939   **Image available**

SYNTAX **ANALYSIS** SYSTEM

ABSTRACT

PURPOSE: To select the validest syntax tree with a high precision at the time of obtaining plural syntax trees by syntax **analysis** .

CONSTITUTION: A property 9c as the grammatical and **semantic** origin of each word is **described** . A method 10b which **calculates** properties of higher- **order** elements in accordance with properties of lower- **order** elements of phrase structure rules is **described** correspondingly to each

phrase structure rule. Frequency **information** 10c for combination patterns of properties is **described** correspondingly to each phrase structure rule. First, the property of each node is **calculated** in accordance with the **calculating** method 10b with respect to a syntax tree (9a). The validity index of each phrase structure rule is **calculated** in accordance with obtained property **information** and frequency **information** 10c (9b). An average of validity indexes of respective phrase structure rules is **calculated** (9c). The syntax tree whose average validity index is highest is selected from plural syntax trees.

20/5/11   (Item 11 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

04036481   **Image available**
METHOD FOR EXPRESSING TENSE IN **SEMANTIC   ANALYSIS** OF NATURAL LANGUAGE

ABSTRACT
PURPOSE: To perform **semantic   analysis** without fail while finely expressing the difference of the tense between sentences and between phrases by using a means for expressing tense based on the **relationship** of phrase objects in the case of **semantic   analysis** of a sentence.

CONSTITUTION: A phrase object is generated in a **database** , and the **order** of the phrase objects is expressed using the tense by giving the high and low **relationship** to the flow of time in the generation of the phrase object. Further, when the sure tense in the sentence, for example, **data** and time are expressed, more accurate tense expression can be obtained by **defining** it as one of the attributes of the phrase object. Thus, the difference of the tens between phrases and between sentences can be expressed by generating the phrase object. Moreover, the tense **relationship** of more than two phrases and sentences can be **analyzed** .

20/5/12   (Item 12 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

03557765   **Image available**
DEVICE FOR AUTOMATICALLY DETECTING AND CORRECTING ERROR IN JAPANESE SENTENCE

ABSTRACT

PURPOSE: To detect the homonym error of a single word by extracting the objective case of verification shown by a verification object case determination dictionary out of a clause to modefy the objective word of verification and verifying a **connecting relation** in the manner of **semantics** between the **semantic** category equipped with this objective case and the objective word of verification.

CONSTITUTION: The presence / absence of the **connecting relation** in the manner of **semantics** between the appearance of the verification object word and the **semantic** category equipped with case elements to be shown by a verification object case determination dictionary 7 out of the clause to modefy the objective word of verification is **calculated** while **retrieving** a **semantic connection** dictionary 8, to which these **connection possibility** information are **described** in advance, with the appearance of the verification object word and when there is no **connecting relation** in the manner of **semantics** , the objective word of verification is detected as homonym error. In respect to the detected homonym error, a word equipped with the same reading is extracted as a correction candidate and this correction candidate is replaced with the word which is verified as the homonym error. Then, verification is executed by using the **semantic connection relation** and the **connectable** correction candidate is **defined** as a correct candidate to the homonym error. Thus, only the correct candidate of the homonym error can be extracted.

20/5/13   (Item 13 from file: 347)

03209475   **Image available**
KNOWLEDGE EXPRESSION SYSTEM BY SENTENCE IN NATURAL LANGUAGE INPUT INTERACTIVE **INFORMATION** RETRIEVAL

ABSTRACT

PURPOSE: To indicate a similar **definition** sentence based on the **semantic** collation between a desired input sentence and **definition** sentences to a user and to execute retrieval with a desired retrieval key by **defining** the retrieval key by a sentence and making this into a knowledge base.

CONSTITUTION: When an input sentence to indicate retrieval desire is inputted from an input processing part 1, the **semantic category** of the morpheme of the input sentence is identified by a morpheme **analysis** processing part 3 and a **meaning analysis** processing part 4, and next, the **semantic categories** of the morphemes of the **definition** sentences are similarly identified also for the **definition** sentences for the retrieval key of a knowledge base part 2. For the **semantic categories** of these morphemes, similarity degree **calculation** is executed in a **semantic** collation processing part 6 by using a thesaurus 5, and the similarity degrees between the input sentence and the **definition** sentences are obtained. In a sorting processing part 7, sorting is executed for the **definition** sentences in sequence from the **definition** sentence

having the highest similarity degree, the sorted result is indicated to the user by a result display part 8, and the **definition** sentence indicated in a selection processing part 9 is outputted to a next retrieval key conversion processing part 10. In the retrieval key conversion processing part 10, the **definition** sentence is converted into the retrieval key corresponding to the **definition** sentence, and the converted retrieval key is outputted to a retrieval processing part 11. Thus, redefinition and knowledge input by the user can be easier without giving any special inference mechanism to the subject system.

20/5/17   (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

014957065   **Image available**
WPI Acc No: 2003-017579/200301
Related WPI Acc No: 1999-277129
XRPX Acc No: N03-013465
  Free- text **medical** data **encoding method e.g. for X-ray report,**
  involves employing Bayesian network to infer concepts **, based on**
  probabilistic calculations **used for slotting and translating words**
Patent Assignee: CHRISTENSEN L M (CHRI-I); GUNDERSEN·M L (GUND-I); HAUG P J
  (HAUG-I); KOEHLER S B (KOEH-I); VAN BREE R E (VBRE-I)
Inventor: CHRISTENSEN L M; GUNDERSEN M L; HAUG P J; KOEHLER S B; VAN BREE R
  E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020128816	A1	20020912	US 9760567	A	19970930	200301	B
			US 98164048	A	19980930		
			US 2001911976	A	20010723		

Priority Applications (No Type Date): US 9760567 A 19970930; US 98164048 A
  19980930; US 2001911976 A 20010723
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020128816	A1		15	G06F-017/28	Cont of application US 9760567
					Cont of application US 98164048
					Cont of patent US 6292771

Abstract (Basic): US 20020128816 A1
     NOVELTY - A free- **text** **data** comprising words, grammar, syntax,
semantic **relationship** between words, is received. Synonyms and
spelling of the words are checked. The syntax is passed and the grammar
is transformed. **Concepts** are inferred from the **data** , **based** on
Bayesian network managing probabilistic **calculations** which are used
for slotting and translating the words. An encoded representation of
the received **data** is created and stored in a **database** .
     DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the
following:
     (1) Encoded medical **information** provision method;
     (2) Encoded medical **information** provision system; and
     (3) Free- **text** **information** encoding system.
     USE - For capturing **concepts** from free- **text** medical **data** e.g.
X-ray report, free- **text** diagnosis.
     ADVANTAGE - By employing Bayesian network to map the **groups** of
words and phrases, **concepts** are inferred efficiently, thereby
bridging the gap between free- **text**` and coded medical `data` and`
improving accuracy of encoding the free- **text** **data** .   .
     DESCRIPTION OF DRAWING(S) - The figure shows the flowchart
explaining the natural language **parsing** process.
     pp; 15 DwgNo 3/7
Title Terms: FREE; **TEXT** ; MEDICAL; **DATA** ; ENCODE; METHOD; RAY; REPORT;
  EMPLOY; BAYESIAN; NETWORK; INFER; **CONCEPT** ; BASED; **PROBABILITY** ;
  CALCULATE ; SLOT; TRANSLATION; WORD
Derwent Class: S05; T01

International Patent Class (Main): **G06F-017/28**
File Segment: EPI

 20/5/18   (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

014891410   **Image available**
WPI Acc No: 2002-712116/200277
XRPX Acc No: N02-561687
   Meaning **-based** information **retrieval method involves** calculating
   semantic distance **between** concepts **by applying scaling factor to**
   semantic **path based on** relationship **between** concepts
Patent Assignee: APPLIED SEMANTICS INC (SEMA-N)
Inventor: ELBAZ G I; WEISSMAN A J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6453315	B1	20020917	US 99155667	A	19990922	200277	B
			US 99431760	A	19991101		

Priority Applications (No Type Date): US 99155667 P 19990922; US 99431760 A
   19991101
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6453315	B1		15	G06F-017/30	Provisional application US 99155667

Abstract (Basic): US 6453315 B1
       NOVELTY - Several **concepts** are **organized** according to their
   meaning , into a **lexicon** that **defines** elements of a **semantic**
   space . A **semantic** **distance** representing closeness in **meaning**
   between **concepts** is **calculated** by evaluating steps along a
   semantic path between **concepts** and applying a **dynamic** **scaling**
   factor to the steps based on **relationship** between **concepts** at each
   step.
       DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the
   following:
       (1) **Data** set searching method; and
       (2) **Information** handling system.
       USE - For **meaning** -based **information** retrieval for allowing
   users to locate **information** that is close in **meaning** to **concepts**
   searched in world wide web (WWW).
       ADVANTAGE - By **calculating** the **semantic** **distance** that
   represents closeness in **meaning** between **concepts** , the users are
   enabled to search for **documents** or sites in a **meaning** -based
   fashion. Hence, the users are enabled to quickly locate relevant and
   useful **documents** or sites.
       DESCRIPTION OF DRAWING(S) - The figure illustrates the bond
   strength and **semantic** **distance** between **concepts** .
       pp; 15 DwgNo 3/5
Title Terms: **MEANING** ; BASED; **INFORMATION** ; RETRIEVAL; METHOD; **CALCULATE**
   ; **DISTANCE** ; **CONCEPT** ; APPLY; SCALE; FACTOR; PATH; BASED; RELATED;
   CONCEPT
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
International Patent Class (Additional): **G06F-007/00**
File Segment: EPI

 20/5/21   (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014374043   **Image available**
WPI Acc No: 2002-194746/200225
XRPX Acc No: N02-147886

Estimating method for building custom architectural variations in skeletal house plans organizing **building construction** information **into** semantic database

Patent Assignee: PICKENS W E (PICK-I)
Inventor: PICKENS W E
Number of Countries: 001   Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6345258	B1	20020205	US 9768999	P	19971230	200225	B
			US 98220598	A	19981228		

Priority Applications (No Type Date): US 9768999 P 19971230; US 98220598 A 19981228

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6345258	B1		16	G06F-017/00	Provisional application US 9768999

Abstract (Basic): US 6345258 B1

NOVELTY – The method involves **organizing** building construction **information** into a **semantic database** with objects, relationships between the objects and roles **defined** by combinations of the objects and the relationships.

The annual curve object and the annual sales object have a pace **relationship** comprising a monthly estimate role.

DETAILED DESCRIPTION – The method involves further providing to the **database** a customer object, a lot object, a county object, a superintendent object, an annual sales object, an annual curve object, a deposit object, a mortgage object, an insurance object, a title object, an appraisal object, a salesperson object, a bank object, an entry object, a subphase object, a telephone number object, a contact object, a person object and an item number object.

INDEPENDENT CLAIMS are included for
(1) a method of providing costing and **data** on preselected skeletal home plans
(2) an **information** system apparatus
(3) a new home **defining**, costing and selling system
(4) a method of providing **information** for profitability and timely pricing.

USE – For **information** system used in construction of new homes.

ADVANTAGE – Provides and supports state-of-the-art **software** products and services for homebuilding industry to manage and maintain all operating **information** in single, comprehensive **database** .

DESCRIPTION OF DRAWING(S) – The figure shows part of the overall Meta Model for the system.

pp; 16 DwgNo 7/11

Title Terms: ESTIMATE; METHOD; BUILD; CUSTOM; ARCHITECTURE; VARIATION; SKELETON; HOUSE; PLAN; BUILD; CONSTRUCTION; **INFORMATION** ; **DATABASE**

Derwent Class: T01
International Patent Class (Main): **G06F-017/00**
File Segment: EPI

20/5/23   (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014079779   **Image available**
WPI Acc No: 2001-563993/200163
XRPX Acc No: N01-419776

Likelihood symptom numerical value **generating process for diagnosing medical condition, involves providing numerical statement of qualitative expression, to determine particular symptom of disease**

Patent Assignee: SIMULCONSULT INC (SIMU-N)
Inventor: SEGAL M M
Number of Countries: 001   Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week

US 6212519   B1 20010403 US 98107885   A   19980630 200163 B

Priority Applications (No Type Date): US 98107885 A 19980630
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
US 6212519   B1   16 G06F-017/30

Abstract (Basic): US 6212519 B1
       NOVELTY - A qualitative expression of **likelihood** having a term
    and **semantic** form **related** to qualitative expression are identified.
    A numerical **value** of **probability** and formula for processing the
    term is identified. The numerical **value** is processed to provide a
    numerical statement of the **likelihood** , to determine a particular
    symptom of disease.
       DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a
    system for generating database of statistical data.
       USE - For diagnosing medical conditions for determining particular
    disease.
       ADVANTAGE - Provides a more precise measure of statistical **meaning**
    , by evaluating qualitative expressions of **likelihood** .
       DESCRIPTION OF DRAWING(S) - The figure shows the user interface of
    database generating system.
       pp; 16 DwgNo 2/7
Title Terms: SYMPTOM; NUMERIC; **VALUE** ; GENERATE; PROCESS; DIAGNOSE;
  MEDICAL; CONDITION; NUMERIC; STATEMENT; QUALITATIVE; EXPRESS; DETERMINE;
  SYMPTOM; DISEASE
Derwent Class: S05; T01
International Patent Class (Main): **G06F-017/30**
File Segment: EPI

   20/5/24   (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

013989201   **Image available**
WPI Acc No: 2001-473415/200151
  Apparatus and method for searching information **using** concept
  classification **network**
Patent Assignee: KOREA ELECTRONICS & TELECOM RES INST (KOEL-N)
Inventor: CHA G H; CHAE Y S; LEE H A; PARK J D
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
KR 2001008962 A   20010205 KR 9927068   A   19990706 200151 B

Priority Applications (No Type Date): KR 9927068 A 19990706
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
KR 2001008962 A   1 G06F-017/30

Abstract (Basic): KR 2001008962 A
       NOVELTY - An apparatus and method for searching **information** using
    a **concept** **classification** network is provided to search desired
    information for a user with a natural language sentence.
       DETAILED DESCRIPTION - A multimedia **information** natural language
    search apparatus is comprised of a natural language sentence input
    device(101), an input sentence **analysis** part(11), a **data** storage
    part(12), a search processing part(13) and an output device(108). The
    input sentence **analysis** part(11) consists of a morpheme **analyzer**
    (102), a sentence structure **analyzer** (103) and a **semantic** **analyzer**
    (104). The **data** storage part(12) consists of a **dictionary** storage
    device(109), a **concept** **classification** network storage device(110)
    and a multimedia **database** (111). The search processing part(13)
    consists of a **semantic** **information** extractor(105), a record
    searcher(106) and a response generator(107). If the natural language
    sentence input device(101) transmits a search condition to express

through a natural language sentence inputted from a user to the input sentence **analysis** part(11), the input sentence **analysis** part(11) compares a sentence inputted from the user with the **data** of the **dictionary** storage device(109) and **analyzes** it through the morpheme **analyzer** (102), the sentence structure **analyzer** (103) and the **semantic analyzer** (104) sequentially. The **semantic information** extractor(105) of the search processing part(13)·compares the **data** output from the **semantic analyzer** (104) with the **data** of the **concept classification** network storage device(110) and extracts a **semantic information value** .

pp; 1 DwgNo 1/10

Title Terms: APPARATUS; METHOD; SEARCH; **INFORMATION ; CONCEPT ; CLASSIFY** ; NETWORK

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

20/5/25   (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013899175   **Image available**

WPI Acc No: 2001-383388/200141

XRPX Acc No: N01-281294

   Content-based digital image classification involves identifying image class associated **with specific classification region·containing feature vector based on low level features** describing   semantic **content of image**

Patent Assignee: STMICROELECTRONICS SRL (SGSA); SGS THOMSON MICROELTRN SARL (SGSA)

Inventor: BRAMBILLA C; CIOCCA G; DE PONTI M; SCHETTINI R; VALSASNA A

Number of Countries: 026 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1102180	A1	20010523	EP 2000830029	A	20000120	200141	B
JP 2001195592	A	20010719	JP 2000350169	A	20001116	200145	
IT 1311443	B	20020312	IT 99TO996	A	19991116	200250	
JP 3481911	B2	20031222	JP 2000350169	A	20001116	200401	

Priority Applications (No Type Date): IT 99TO996 A 19991116

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1102180	A1	E	12	G06F-017/30	

   Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

JP 2001195592	A		11	G06T-007/00	
IT 1311443	B			A61B-000/00	
JP 3481911	B2		11	G06T-007/00	Previous Publ. patent JP 2001195592

Abstract (Basic): EP 1102180 A1

   NOVELTY - The low level features **describing semantic** content of an image are **defined** . The feature **space defined** by features is splitted into number of classification regions with feature vector. The image is indexed to extract feature vector components using low level features. The image class **associated** with specific classification region containing extracted feature vector, is identified.

   USE - For content-based digital image classification.

   ADVANTAGE - The analysis of high number of pixels of an image is provided with smaller exploitation of computational resources based on digital image classification. The image analysis is highly optimized and modular by classifying the images into different regions based on the content of images. Extremely robust so far, as the use of a tree structured classifier eliminates entirely the **possibility** of not taking into consideration particular cases that might arise in images.

   DESCRIPTION OF DRAWING(S) - The figure shows the flowchart of digital image classification method.

pp; 12 DwgNo 1/2
Title Terms: CONTENT; BASED; DIGITAL; IMAGE; CLASSIFY; IDENTIFY; IMAGE;
   CLASS; **ASSOCIATE** ; SPECIFIC; CLASSIFY; REGION; CONTAIN; FEATURE; VECTOR;
   BASED; LOW; LEVEL; FEATURE; **DESCRIBE** ; CONTENT; IMAGE
Derwent Class: P31; T01
International Patent Class (Main): A61B-000/00; **G06F-017/30** ; G06T-007/00
File Segment: EPI; EngPI

 20/5/26   (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013540014   **Image available**
WPI Acc No: 2001-024220/200103
XRPX Acc No: N01-018934
   Word string probability **modification for speech recognition system,
   involves modifying probabilities of word strings based on** semantic
   values matching **to suitable** semantic **tag, when one external condition
   is true**
Patent Assignee: SPEECHWORKS INT INC (SPEE-N)
Inventor: BARNARD E; DAHAN J; METZGER M J; PHILLIPS M S
Number of Countries: 028 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200051106	A1	20000831	WO 2000US4810	A	20000225	200103	B
AU 200033774	A	20000914	AU 200033774	A	20000225	200103	
EP 1163664	A1	20011219	EP 2000911965	A	20000225	200206	
			WO 2000US4810	A	20000225		
JP 2002538534	W	20021112	JP 2000601630	A	20000225	200275	
			WO 2000US4810	A	20000225		
TW 480472	A	20020321	TW 2000103429	A	20000225	200308	
US 6519562	B1	20030211	US 99258012	A	19990225	200314	
US 20040006465	A1	20040108	US 99258012	A	19990225	200404	
			US 2003364298	A	20030210		

Priority Applications (No Type Date): US 99258012 A 19990225; US 2003364298
   A 20030210
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200051106	A1	E	34	G10L-015/14	

   Designated States (National): AU CA CN JP KR MX SG
   Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
   MC NL PT SE

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
AU 200033774	A				Based on patent WO 200051106
EP 1163664	A1	E		G10L-015/14	Based on patent WO 200051106

   Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI
   LU MC NL PT SE

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2002538534	W		38	G06F-017/28	Based on patent WO 200051106
TW 480472	A			G10L-015/14	
US 6519562	B1			G10L-015/08	
US 20040006465	A1			G10L-015/00	Cont of application US 99258012
					Cont of patent US 6519562

Abstract (Basic): WO 200051106 A1
     NOVELTY - The dynamic **semantic** rules are created based on
   external conditions about the context in which the speech recognizer is
   used. If one of the conditions is true currently, the **probability**
   values of word strings **associated** with **semantic** values that **match**
   corresponding **semantic** tag are modified.
     DETAILED DESCRIPTION - The dynamic **semantic** rules which **defines**
   the change in **probability** values when one of the **semantic** values
   matches a predetermined **semantic** tag, are created and stored. An
   INDEPENDENT CLAIM is also included for **probability** **value** modifying
   program.
     USE - For modifying **probability** **value** **associated** with word
   strings recognized by speech recognizer.

ADVANTAGE - The **semantic** information can be used in resolving ambiguities within the recognizer, hence performance of recognizer is improved.

DESCRIPTION OF DRAWING(S) - The figure shows the flow chart explaining speech recognition processing method.

pp; 34 DwgNo 2/3

Title Terms: WORD; STRING; **PROBABILITY** ; MODIFIED; SPEECH; RECOGNISE; SYSTEM; MODIFIED; **PROBABILITY** ; WORD; STRING; BASED; **VALUE** ; **MATCH** ; SUIT; TAG; ONE; EXTERNAL; CONDITION; TRUE

Derwent Class: P86; W04

International Patent Class (Main): **G06F-017/28** ; G10L-015/00; G10L-015/08; G10L-015/14

International Patent Class (Additional): G10L-015/10; G10L-015/18

File Segment: EPI; EngPI

20/5/27   (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013513881   **Image available**
WPI Acc No: 2000-685827/200067
XRPX Acc No: N00-506956

Semantic **characterization assignment system to content stream of computer systems, has profile** defining **topological vector** space **corresponding to** semantic **records, that is** associated **with tokens**

Patent Assignee: NOVELL INC (NOVE-N)
Inventor: CARTER S R; JENSEN D C; LAVANGE D H
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6108619	A	20000822	US 98109804	A	19980702	200067	B

Priority Applications (No Type Date): US 98109804 A 19980702
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6108619	A		11	G06F-017/27	

Abstract (Basic): US 6108619 A

NOVELTY - Content stream having several phrases in the network is **associated** with the principals of network. Each token has metadata about the phrases **associated** with the respective tokens. Each profile **defining** topological vector **space** corresponding to **semantic** records **associated** with profile and principal, is **associated** with the tokens.

DETAILED DESCRIPTION - A token dictionary and profile store have association between tokens and phrases, and profiles and its corresponding tokens respectively. The profile **defines   probability** density function within topological vector **space** . INDEPENDENT CLAIMS are also included for the following:

(a) method for assigning **semantic** characterization to content stream;

(b) program product

USE - For assigning **semantic** characterization of content streams **related** to computer e.g. personal computer, workstations, servers, main frames, embedded systems, microprocessors, discrete logic systems, analog systems, microelectronics.

ADVANTAGE - As memory is non-volatile, data is retained in absence of power so that information is available when power is restored.

DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram of possible correlation between principal, content stream, tokens/profiles, **semantic** records.

pp; 11 DwgNo 2/6

Title Terms: ASSIGN; SYSTEM; CONTENT; STREAM; COMPUTER; SYSTEM; PROFILE; **DEFINE** ; TOPOLOGICAL; VECTOR; **SPACE** ; CORRESPOND; RECORD; **ASSOCIATE** ; TOKEN

Derwent Class: T01

International Patent Class (Main): **G06F-017/27**
File Segment: EPI

 20/5/28   **(Item 15 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
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013510660   **Image available**
WPI Acc No: 2000-682606/200067
XRPX Acc No: N00-505394
   Generation apparatus for thesaurus has registration unit which registers
   relationship   data **showing higher** order   relationship **or lower**
   order   conception **between novel registration word and registered word**
Patent Assignee: NIPPON SOGO KENKYUSHO KK (NISO-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
JP 2000285122 A   20001013   JP 9989565   A   19990330 200067 B

Priority Applications (No Type Date): JP 9989565 A 19990330
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
JP 2000285122 A   9 G06F-017/30

Abstract (Basic): JP 2000285122 A
     NOVELTY - A decision circuit determines the inclusion **relationship**
   of a character code between a word newly registered to a thesaurus,
   and a word already registered to the thesaurus. A **relationship**
   property registration unit registers **relationship**   data which show
   the higher **order**   **relationship** or the lower **order**   **conception**
   between a novel registration word and a registered word to the
   thesaurus.
     DETAILED DESCRIPTION - A memory stores the thesaurus which
   describes the **relationship** of the registered word and the word to be
   registered. An input unit inputs a sentence **analyzed** in morphological
    analysis . A word extraction unit extracts a word included in the
   input sentence. A registration decision circuit determines whether the
   extracted word is a word registered into the thesaurus. A registration
   unit performs the novel registration of the extracted word to the
   thesaurus when the extracted word is a word not registered to the
   thesaurus. INDEPENDENT CLAIMS are also included for the following:
     (a) a thesaurus generating method;
     (b) and a recording medium used in storing thesaurus generating
   program .
     USE - For thesaurus.
     ADVANTAGE - Load of operation in registering **data** that show the
   operation and **semantic**   **relationship** of words is reduced.
     DESCRIPTION OF DRAWING(S) - The figure shows the flowchart of the
   thesaurus generating method by a thesaurus generating **program** .
     pp; 9 DwgNo 3/5
Title Terms: GENERATE; APPARATUS; REGISTER; UNIT; REGISTER; RELATED; **DATA**
  ; HIGH; **ORDER** ; RELATED; LOWER; **ORDER** ; **CONCEPTION** ; NOVEL; REGISTER;
  WORD; REGISTER; WORD
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
International Patent Class (Additional): **G06F-017/28**
File Segment: EPI

 20/5/29   **(Item 16 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
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012422728   **Image available**
WPI Acc No: 1999-228836/199919
Related WPI Acc No: 2001-353043

XRPX Acc No: N99-169329
Theme determining method for discourse
Patent Assignee: ORACLE CORP (ORAC-N)
Inventor: WICAL K
Number of Countries: 001   Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5887120	A	19990323	US 95455484	A	19950531	199919	B

Priority Applications (No Type Date): US 95455484 A 19950531
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5887120	A		21	G06F-015/00	

Abstract (Basic): US 5887120 A
        NOVELTY – The themes of the input discourse are **classified** by
    relating them into **categories** of knowledge catalog reflecting
    semantic or linguistic **relationship** between them. A theme **concept**
    is generated by extracting a **category** from a higher level in
    knowledge catalog and is added as a theme if more than one theme map to
    the theme **concept** .
        DETAILED DESCRIPTION – An INDEPENDENT CLAIM is included for a
    program for determining theme of a discourse.
        USE – For discourse for business and industry.
        ADVANTAGE – Provides unique infrastructure to accurately represent
    concepts that **define** knowledge. Provides multiple views,
    characterization and **organization** of **concepts** . Flexibility provided
    by the structure of knowledge catalog permits generation of true
    knowledge map.
        DESCRIPTION OF DRAWING(S) – The figure shows a high level
    methodology for content processing including theme vector processing.
        pp; 21 DwgNo 5/8
Title Terms: THEME; DETERMINE; METHOD
Derwent Class: T01; T02
International Patent Class (Main): **G06F-015/00**
International Patent Class (Additional): G06G-007/00
File Segment: EPI

 20/5/30   **(Item 17 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
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012039810   **Image available**
WPI Acc No: 1998-456720/199839
XRPX Acc No: N98-356470
  **Problem resolution supporting method in computer network e.g. LAN -
  involves generating several hierarchically ranked diagnostic methods that
  identify** prospective **sources of** associated **problem in computer system**
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: GORE R C
Number of Countries: 001   Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5794237	A	19980811	US 95555951	A	19951113	199839	B
			US 97963092	A	19971103		

Priority Applications (No Type Date): US 95555951 A 19951113; US 97963092 A
    19971103
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5794237	A		15	G06F-017/30	Cont of application US 95555951

Abstract (Basic): US 5794237 A
        The method involves building a problem solution identification
    database containing **information** pertaining to diagnostic methods. A
    user **defined** **information** corresponding to problem **associated** with

computer system is received. The **database** is then **searched** by employing **semantic distance search** technique, based on the received **information** . Several hierarchy ranked diagnostic methods which identify **prospective** sources of **associated** problem are generated based on the **search** result.

One of the diagnostic methods **searched** from the **database** is executed. During execution, a relevant feedback **file** having **search** texts is compiled. The compiled feedback **file** is appended to the **database** . The appended feedback **file** is **analysed** in **order** to generate statistical indices corresponding to the executed diagnostic method. The execution result of the diagnostic method is recorded. The alteration in feedback **file** in **database** is **searched** based on the statistical indices.

ADVANTAGE - Simplifies administration in providing computer based problem identification and solution assistance.

Dwg.1/7

Title Terms: PROBLEM; RESOLUTION; SUPPORT; METHOD; COMPUTER; NETWORK; LAN; GENERATE; HIERARCHY; RANK; DIAGNOSE; METHOD; IDENTIFY; **PROSPECTING ;** SOURCE; **ASSOCIATE** ; PROBLEM; COMPUTER; SYSTEM
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
File Segment: EPI

20/5/31   (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

012039743   **Image available**
WPI Acc No: 1998-456653/199839
XRPX Acc No: N98-356403
Natural language interpretation method using computer - involves determining relation between words in input languages by semantic information **expressed in logic form and** classifying concepts **and relation by ontological** classification **network**
Patent Assignee: INTELLIGENT TEXT PROCESSING INC (INTE-N)
Inventor: DAHLGREN K; STABLER E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5794050	A	19980811	US 95369034	A	19950104	199839	B
			US 97943069	A	19971002		

Priority Applications (No Type Date): US 95369034 A 19950104; US 97943069 A 19971002
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5794050	A		17	G06F-009/45	Cont of application US 95369034

Abstract (Basic): US 5794050 A
The method involves **parsing** a word by a **parser** (502) **analyzing** it relative to other words in the input natural language. Structural and word sense ambiguity is eliminated in the input language. A partial discourse representation generated for subset of the input language is added and translated into suitable first **order** logic form. An entry in a **dictionary** for a word in the input language is identified.

Multiple common sense meanings and syntactic and **semantic information** associated with the meanings are identified. The **semantic information** expressed in first **order** logic form contains multiple entries in the **dictionary** and is used to determine **relationship** between several input languages. An ontological **classification** network **classifies concepts** and relationships between several **classifications** .

ADVANTAGE - Eases implementation in any type of computer system or processing environment. Provides interface to world wide web and **information** high way. Improves ability of robot to behave independently on basis of word knowledge. Understands environment from beginning effectively.

Title Terms: NATURAL; LANGUAGE; INTERPRETATION; METHOD; COMPUTER; DETERMINE
; RELATED; WORD; INPUT; LANGUAGE; **INFORMATION** ; EXPRESS; LOGIC; FORM;
CLASSIFY ; **CONCEPT** ; RELATED; **CLASSIFY** ; NETWORK
Derwent Class: T01
International Patent Class (Main): **G06F-009/45**
File Segment: EPI

20/5/32   **(Item 19 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
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011247743   **Image available**
WPI Acc No: 1997-225646/199720
XRPX Acc No: N97-186734
  Japanese data **keyword extraction device for** database **- includes
  keyword candidate unit extracting keywords according to morpheme**
  dictionary **containing morpheme** information **with keyword finalising
  unit determining true keywords with frequencies above threshold**
Patent Assignee: NEC KK (NIDE); NEC CORP (NIDE)
Inventor: EMORI K; OHTSUKI N
Number of Countries: 002   Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5619410	A	19970408	US 94219530	A	19940329	199720	B
KR 9704100	B1	19970325	KR 946321	A	19940329	199937	

Priority Applications (No Type Date): JP 9393655 A 19930329
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5619410	A		24	G06F-017/30	
KR 9704100	B1			G06F-017/27	

Abstract (Basic): US 5619410 A

        The sentence segmentation device includes a morpheme **analysis**
    unit dividing sentence-by-sentence **data** into morphemes and **analysing**
     them on the basis of **information** regarding morpheme-by-morpheme
    continuation contained in an analytical **dictionary** . A morpheme
    dictionary **information** development unit develops the contents of the
    morpheme **dictionary** including part of speech, **semantic**
    classification , sentence pattern and noted term **information** . A
    keyword candidate extraction unit extracts keyword candidates from
    sentence-by-sentence **data** on the basis of the part of speech
    information and the context of each morpheme.
        A case **information** acquisition unit acquires case **information**
    from **information** regarding the classes of case of keyword candidates
    immediately preceding noted terms stored in a noted term table and case
    class **classification** **information** stored in a case class conversion
    table. A frequency **information** acquisition unit acquires the
    appearance frequency of each keyword candidate. An importance
    calculation unit **calculates** the importance of each keyword candidate
    as a keyword. A keyword finalizing unit definitely determines as true
    keywords only those keyword candidates having degrees of importance
    above a set level of importance.
        ADVANTAGE - Provides automatic keyword extraction on basis of
    frequency of appearance in **text** and **semantic** **information** .
    Keywords accurately reflect **meaning** of theme of **text** .
        Dwg.1/20
Title Terms: JAPAN; **DATA** ; KEYWORD; EXTRACT; DEVICE; **DATABASE** ; KEYWORD;
   CANDIDATE; UNIT; EXTRACT; KEYWORD; ACCORD; **DICTIONARY** ; CONTAIN;
   INFORMATION ; KEYWORD; UNIT; DETERMINE; TRUE; KEYWORD; FREQUENCY; ABOVE;
   THRESHOLD
Derwent Class: T01
International Patent Class (Main): **G06F-017/27** ; **G06F-017/30**
International Patent Class (Additional): **G06F-017/20**
File Segment: EPI

DIALOG(R)File 350:Derwent WPIX
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010277756   **Image available**
WPI Acc No: 1995-179011/199523
XRPX Acc No: N95-140504
    Semantic **object modelling system for creating relational** database
    schemes - enables user to associate attributes describing
    characteristic that all instances of semantic **object have in common,**
    with semantic **objects corresp to number of relational tables** defining
    database **scheme**
Patent Assignee: WALL DATA INC (WALL-N)
Inventor: EGGEBROTEN L I; KAWAI K; KROENKE D M; OLDS C C
Number of Countries: 060 Number of Patents: 015
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9512172	A1	19950504	WO 94US10355	A	19940913	199523	B
AU 9479552	A	19950522	AU 9479552	A	19940913	199534	
NO 9601698	A	19960626	WO 94US10355	A	19940913	199636	
			NO 961698	A	19960426		
EP 727070	A1	19960821	EP 94930429	A	19940913	199638	
			WO 94US10355	A	19940913		
US 5548749	A	19960820	US 93145997	A	19931029	199639	
BR 9407897	A	19961119	BR 947897	A	19940913	199701	
			WO 94US10355	A	19940913		
AU 676395	B	19970306	AU 9479552	A	19940913	199718	
NZ 275544	A	19970526	NZ 275544	A	19940913	199727	
			WO 94US10355	A	19940913		
JP 9507106	W	19970715	WO 94US10355	A	19940913	199738	
			JP 95512611	A	19940913		
CN 1137320	A	19961204	CN 94194493	A	19940913	199805	
US 5809297	A	19980915	US 93145997	A	19931029	199844	
			US 96695000	A	19960809		
EP 727070	B1	19990512	EP 94930429	A	19940913	199923	
			WO 94US10355	A	19940913		
DE 69418474	E	19990617	DE 618474	A	19940913	199930	
			EP 94930429	A	19940913		
			WO 94US10355	A	19940913		
ES 2134959	T3	19991016	EP 94930429	A	19940913	199950	
MX 9602700	A1	19980101	MX 962700	A	19960709	199952	N

Priority Applications (No Type Date): US 93145997 A 19931029; US 96695000 A
    19960809; MX 962700 A 19960709
Cited Patents: Jnl.Ref; EP 560543
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9512172	A1	E	99	G06F-017/30	

    Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE
    ES FI GB GE HU JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW NL NO NZ PL
    PT RO RU SD SE SI SK TJ TT UA US UZ VN
    Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT KE LU MC
    MW NL OA PT SD SE

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
AU 9479552	A			G06F-017/30	Based on patent WO 9512172
EP 727070	A1	E	99	G06F-017/30	Based on patent WO 9512172

    Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC
    NL PT SE

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5548749	A		65	G06F-015/40	
BR 9407897	A			G06F-017/30	Based on patent WO 9512172
AU 676395	B			G06F-017/30	Previous Publ. patent AU 9479552
					Based on patent WO 9512172
NZ 275544	A			G06F-017/30	Based on patent WO 9512172
JP 9507106	W		131	G06F-017/30	Based on patent WO 9512172
US 5809297	A			G06F-017/30	Cont of application US 93145997
					Cont of patent US 5548749
EP 727070	B1	E		G06F-017/30	Based on patent WO 9512172

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LT LU
MC NL PT SE SI

DE 69418474	E	G06F-017/30	Based on patent EP 727070
			Based on patent WO 9512172
ES 2134959	T3	G06F-017/30	Based on patent EP 727070
NO 9601698	A	G06F-017/30	
CN 1137320	A	G06F-017/30	
MX 9602700	A1	G06F-009/00	

Abstract (Basic): WO 9512172 A
        The system allows a user to create a **semantic** object **data** model
    of the **database** schema. The **semantic** object **data** model is
    defined by one or more **semantic** objects, each of which includes one
    or more attributes that **describe** a characteristic of the **semantic**
    objects. The attributes are **defined** as being either simple **value**
    attributes that **describe** a single characteristic of the **semantic**
    object, **group** attributes that include one or more member attributes
    that collectively **describe** a characteristic of the **semantic** object,
    formula attributes that **define** a computation that **describes** a
    characteristic of a **semantic** object, or object link attributes that
    define a **relationship** between two or more semantic objects.
        Once the **semantic** object model is created, the system validates
    the **semantic** objects to ensure that no modelling errors have been
    made, and transforms the **semantic** objects and their included
    attributes into a number of relational **database** tables that will
    store **data** as **defined** by the **semantic** object **data** model.
        USE/ADVANTAGE - Allows user to easily produce **database** schema and
    create album that **defines** **semantic** object **data** model of number of
    relational **database** tables that **define** **database** schema.
        Dwg.1/29
Title Terms: OBJECT; MODEL; SYSTEM; RELATED; **DATABASE** ; SCHEME; ENABLE;
    USER; ASSOCIATE; ATTRIBUTE; **DESCRIBE** ; CHARACTERISTIC; INSTANCE; OBJECT;
    COMMON; OBJECT; CORRESPOND; NUMBER; RELATED; TABLE; **DEFINE** ; **DATABASE** ;
    SCHEME
Derwent Class: T01
International Patent Class (Main): **G06F-009/00** ; **G06F-015/40** ;
    G06F-017/30
International Patent Class (Additional): **G06F-012/00** ; **G06F-019/00**
File Segment: EPI

20/5/34   (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009206526   **Image available**
WPI Acc No: 1992-333947/199241
XRPX Acc No: N92-254902
    Data **query system for** database **- comprises** application software
    **which transforms selection condition and circuit which processes logical
    values taken on by atomic conditions**
Patent Assignee: LEFONS E (LEFO-I)
Inventor: LEFONS E
Number of Countries: 006 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 507744	A2	19921007	EP 92830102	A	19920304	199241	B
IT 1244938	B	19940913	IT 91RM154	A	19910306	199508	
EP 507744	A3	19931208	EP 92830102	A	19920304	199514	
US 5398199	A	19950314	US 92846806	A	19920304	199516	

Priority Applications (No Type Date): IT 91RM154 A 19910306
Cited Patents: No-SR.Pub; 3.Jnl.Ref
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 507744	A2	E	31	G06F-015/403	

    Designated States (Regional): DE FR GB IT NL

US 5398199   A   28 G06F-015/32
IT 1244938   B   G06F-000/00
EP 507744   A3   G06F-015/403

Abstract (Basic): EP 507744 A
        The apparatus consists of an **application   software** and a
    circuitry for the processing of the **data** selection conditions of the
    user query embodied in a host **data   base** management system or
    information retrieval system. The **application   software** translates
    the selection condition into the standard form which the circuitry can
    process.
        From the host system, and for each **data** record to be **analysed** ,
    the circuit apparatus receives the logical values taken on by the
    atomic conditions of the query and returns the logical **value** that the
    global selection condition takes on.
        ADVANTAGE - Allows user to query **data** , and on basis of any
    truth-valued logic set up arbitrary number of logical values within
    limits fixed by system developer.
        at
        Dwg.2/20
Title Terms: **DATA** ; QUERY; SYSTEM; **DATABASE** ; COMPRISE; APPLY; **SOFTWARE**
    ; TRANSFORM; SELECT; CONDITION; CIRCUIT; PROCESS; LOGIC; **VALUE** ; ATOMIC;
    CONDITION
Derwent Class: Q16; T01
International Patent Class (Main): **G06F-015/32 ; G06F-015/403**
International Patent Class (Additional): **G06F-015/40**
File Segment: EPI; EngPI

 20/5/35   (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

007501131   **Image available**
WPI Acc No: 1988-135064/198820
XRPX Acc No: N88-102814
    **Language translation appts. using computer - generates target language
    sentence based on** analysed **sentence of original language, and performs
    synthetic** analysis
Patent Assignee: SHARP KK (SHAF   )
Inventor: FUKUMOCHI Y; HRAI T; KUGIMIYA S; SATA ; SHIOTANI S; SUZUKI H;
    TOKUNAGA S
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2197510	A	19880518	GB 8725045	A	19871026	198820	B
US 4953088	A	19900828	US 89372133	A	19890626	199037	

Priority Applications (No Type Date): JP 86284486 A 19861128; JP 86256077 A
    19861027; JP 86256078 A 19861027; JP 86256079 A 19861027
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2197510	A		14		

Abstract (Basic): GB 2197510 A
        The translation apparatus has a computer which **analyses** an
    original language sentence, and generates a target language sentence
    based on the **analysed** sentence. During the translation, indicators
    are displayed on a screen for indicating that the **analysis** of the
    original language sentence is taking **place** . Other indicators are
    displayed for indicating that the generation of the target language
    sentence is taking **place** . The indicators help the operator to know
    that, particularly when it is taking a long time to translate, the
    translation apparatus is operating properly.
        The **analyser** has a **dictionary** look-up and morpheme **analysis**
    to find a word **information** for each word in the original language
    sentence. A syntactic **analysis** is carried out to find a **relationship**
    between the words in the original language sentence and to determine

on or more sentence constructions. A **semantic   analysis** is used to
select one sentence construction among the sentence constructions
determined in the syntactic **analysis** from the viewpoint of the
meaning .
     ADVANTAGE - Indicates translation steps being carried out in
computer.
     3,4/8
Title Terms: LANGUAGE; TRANSLATION; APPARATUS; COMPUTER; GENERATE; TARGET;
   LANGUAGE; SENTENCE; BASED; **ANALYSE** ; SENTENCE; ORIGINAL; LANGUAGE;
   PERFORMANCE; SYNTHETIC; **ANALYSE**
Derwent Class: T01
International Patent Class (Additional): **G06F-015/38**
File Segment: EPI

   20/5/36   (Item 23 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007339108
WPI Acc No: 1987-336114/198748
XRPX Acc No: N87-251689
   Japanese to english translation machine - has dictionary **unit with**
   semantic   information **and translation unit which syntactically and**
   semantically translates
Patent Assignee: TOSHIBA KK (TOKE)
Inventor: AOYAMA C; KUMANO A; SUGAWARA Y
Number of Countries: 004 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 247395	A	19871202	EP 87106512	A	19870506	198748	B
US 4964044	A	19901016	US 89412538	A	19890922	199044	
EP 247395	B1	19940216	EP 87106512	A	19870506	199407	
DE 3789073	G	19940324	DE 3789073	A	19870506	199413	
			EP 87106512	A	19870506		
EP 247395	B2	19981104	EP 87106512	A	19870506	199848	

Priority Applications (No Type Date): JP 86113716 A 19860520
Cited Patents: 2.Jnl.Ref; A3...8832; JP 57048161; No-SR.Pub
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 247395	A	E	14		

   Designated States (Regional): DE FR GB

US 4964044	A		13		
EP 247395	B1	E	15	G06F-015/38	

   Designated States (Regional): DE FR GB

DE 3789073	G			G06F-015/38	Based on patent EP 247395
EP 247395	B2	E		G06F-017/28	

   Designated States (Regional): DE FR GB

Abstract (Basic): EP 247395 A
     The system includes a device for inputting an original sentence in
Japanese having no morphological distinction between singular form and
plural form. A **dictionary** unit is provided for storing various
information about the two languages, inclusive of **semantic**
information indicative of plurals.
     A translation unit is provided for syntactically and semantically
translating Japanese into English having morphological distinctions
between singular form and plural form. The distinctions are based on
syntactic modification **relationship** between a first **category** having
a morphological distinction between the two forms and a second
category including **semantic   information** indicative of plural no.
An output device is provided to output English.
Title Terms: JAPAN; ENGLISH; TRANSLATION; MACHINE; **DICTIONARY** ; UNIT;
   INFORMATION ; TRANSLATION; UNIT; TRANSLATION
Derwent Class: T01
International Patent Class (Main): **G06F-015/38** ; **G06F-017/28**

File Segment: EPI

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Set      Items      Description
S1   12116403    *deleted*  DOCUMENT? OR TEXT OR DATA OR INFORMATION
S2    3512900    CONCEPT? OR IDEA? OR NOTION? OR PERCEPTION? OR THOUGHT?
S3   15781842    ORGANIZ? OR  ORGANIS? OR CLASSIF? OR GROUP? OR CATEGOR? OR
                 LAYOUT? OR ORDER? OR ARRANGEMENT? OR CLUSTER? OR MATCH? OR IN-
                 SERT? OR ENTER OR POST? OR PLACE? OR PLACING
S4   11749373    DATABASE? OR DATA()BASE? OR SOFTWARE OR PROGRAM? OR APPLIC-
                 ATION? OR FILE? OR LEXICON OR DICTIONARY OR GLOSSARY OR VOCAB-
                 ULARY OR WORDBOOK OR TERMINOLOGY OR VOCABULARY
S5   16519646    PARSE? OR PARSING OR FRAGMENT? OR CHUNK? OR SEPARATE? OR B-
                 REAKOUT OR BREAK()OUT OR MAPPING OR ANALYZ? OR ANALYS? OR ITE-
                 MIZATION OR ENUMERAT? OR ORGANIZ? OR ORGANIS? OR MAPPED OR MA-
                 PS
S6     167736    SEMANTIC OR  SEMANTICS
S7    8684428    MEANING OR CONCEPT? OR DEFINITION OR DEFINE? OR DEFINING OR
                 DESCRIB? OR STIPULAT? OR DESIGNAT?
S8   16878545    ASSOCIATE? OR LINK??? OR MATCH??? OR RELAT? OR JOIN? OR CO-
                 NNECT? OR INTEGRAT?
S9    2412379    PROBABILITY OR CHANCE OR LIKELIHOOD OR ODDS OR POSSIBILITY
                 OR PROSPECT?
S10     28465    S9 (3N) (RETRIEV? OR QUER? OR LOOKUP OR LOOK()UP OR SEARCH?
                 OR SEEK? OR QUER? OR MATCH? OR QUEST? OR PURSU? OR FIND???)
S11   3365811    S8 (S) (DISTANCE OR VALUE OR SPACE OR RELATIONSHIP OR CALC-
                 ULAT? OR DYNAMIC()SCALING()FACTOR?)
S12      3481    (S1 OR S2) (S) S3 (S) S4 (S) S5 (S) S6 (S) S7
S13         3    S11 (S) S9 (S) S10 (S) S11 (S) S12
S14       279    S6 (S) S7 (S) S8 (S) S9 (S) S11
S15        22    S12 (S) S14
S16        22    S13 OR S15
S17        16    S16 NOT PY>1999
S18        15    S17 NOT PD>19990922
S19        13    RD (unique items)
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         (c) 2004 American Mathematical Society
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File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 647:CMP  Computer Fulltext 1988-2004/Jul W4
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6331490   INSPEC Abstract Number: C1999-10-1220-012
Title: Data-driven construction of transparent fuzzy models: methods and applications
Author(s): Babuska, R.; Setnes, M.
Author Affiliation: Fac. of Inf. Technol. & Syst., Delft Univ. of Technol., Netherlands
Conference Title: 6th European Congress on Intelligent Techniques and Soft Computing. EUFIT '98   Part vol.1   p.594-602 vol.1
Publisher: Verlag Mainz, Aachen, Germany
Publication Date: 1998 Country of Publication: Germany   3 vol. xxvi+2010 pp.
ISBN: 3 89653 500 5   Material Identity Number: XX-1999-02098
Conference Title: 6th European Congress on Intelligent Techniques and Soft Computing. EUFIT '98
Conference Date: 7-10 Sept. 1998   Conference Location: Aachen, Germany
Language: English   Document Type: Conference Paper (PA)
Treatment: Theoretical (T)

Abstract: The interest in **data** driven approaches to the acquisition of fuzzy systems is increasing. Reasons to choose fuzzy systems instead of other modeling techniques such as neural networks, radial basis functions or splines, are mainly the **possibility** of **integrating** logical **information** processing with the attractive mathematical properties of general function approximators. The rule-based structure of fuzzy systems also makes their qualitative **analysis** possible. However, many of the **data** -driven fuzzy modeling algorithms developed aim at good numerical approximation while little attention is paid to the semantical properties of the resulting rule base. The article discusses a **data** -driven approach to fuzzy modeling that provides the user with both accurate and transparent rule bases. The method has two main steps: **data** exploration by means of fuzzy **clustering** , and fuzzy set aggregation by means of similarity **analysis** . First, fuzzy **relationships** are identified in the product **space** of the system's variables and **described** by means of fuzzy production rules. Then, compatible fuzzy **concepts** **defined** for the individual variables are identified and aggregated to produce generalizing **concepts** , giving a comprehensible rule base with increased **semantic** properties. An **application** example is presented. (28 Refs)
Subfile: C
Descriptors: aggregation; fuzzy set theory; fuzzy systems; identification; knowledge based systems; modelling; pattern clustering
Identifiers: data-driven construction; transparent fuzzy models; logical information processing; general function approximators; rule-based structure; qualitative analysis; transparent rule bases; data exploration; fuzzy clustering; fuzzy set aggregation; similarity analysis; fuzzy relationships; generalizing concepts; semantic properties
Class Codes: C1220 (Simulation, modelling and identification); C1160 (Combinatorial mathematics); C4210 (Formal logic); C6170 (Expert systems and other AI software and techniques); C1230 (Artificial intelligence); C1250 (Pattern recognition)

4919653   INSPEC Abstract Number: C9505-6160B-025
Title: Rule based joins in heterogeneous databases
Author(s): Chatterjee, A.; Segev, A.
Author Affiliation: Walter A. Haas Sch. of Bus., California Univ., Berkeley, CA, USA
Journal: Decision Support Systems   vol.13, no.3-4   p.313-33
Publication Date: March 1995 Country of Publication: Netherlands
CODEN: DSSYDK ISSN: 0167-9236

Language: English   Document Type: Journal Paper (JP)
Treatment: Theoretical (T)

Abstract: The problem of computing **joins** in heterogeneous **databases** is **analyzed** . Rules are combined with a probabilistic framework to resolve the **data** heterogeneity problem. The entity- **join** operator is **defined** to identify and **join** records across **databases** . A certain amount of uncertainty is **associated** with this entity- **join** model due to the **possibility** of wrong **matches** . While the rule-based approach captures the **data** **semantics** , the probabilistic framework models the uncertainty and provides a formal measure of accuracy of the entity- **join** . Representing the values of mismatched attributes presents a difficult problem because the true **value** of the attribute cannot be identified from the various conflicting values. Probabilistic partial values are used to represent these attribute values so that user preferences and the reliability of the **data** can be taken into account. (36 Refs)
Subfile: C
Descriptors: data integrity; database theory; distributed databases; probability; software reliability
Identifiers: rule based joins; heterogeneous databases; attribute values; data heterogeneity problem; entity-join operator; uncertainty; wrong matches; data semantics; accuracy; mismatched attributes; conflicting values; probabilistic partial values; user preferences; data reliability; federated database; structural heterogeneity; semantic heterogeneity; approximation; tuple probability
Class Codes: C6160B (Distributed databases); C4250 (Database theory)

19/5/3   (Item 1 from file: 239)
DIALOG(R)File 239:Mathsci
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Table of Contents

02347995 MR 84b#03004
Fuzzy set and possibility theory.
  Recent developments. Papers presented at the Symposium held in Acapulco, December 1980. Edited by Ronald R. Yager.
  Contributors: Yager, Ronald R.
  Publ: Pergamon Press, Inc., Elmsford, N.Y.,
  1982, xiv+633 pp. ISBN: 0-08-026294-5
  Price: $70.00.
  Language: English
  Document Type: Book; Proceedings
  Journal Announcement: 1514
  Fuzzy set and possibility theory; Symposium: Fuzzy Set and Possibility Theory; Acapulco,   1980
  Subfile: MR (Mathematical Reviews) AMS
  Abstract Length: LONG (81 lines)

Asai], A heuristic method of hierarchical **clustering** for fuzzy intransitive **relations** (pp. 148 - 166); J. F. Baldwin, An automated fuzzy reasoning algorithm (pp. 169 - 195); C. J. Ernst, An approach to management expert systems using fuzzy logic (pp. 196 - 203); Ellen Hisdal, A fuzzy IF THEN ELSE **relation** with guaranteed correct inference (pp. 204 - 210); Masaharu Mizumoto, Fuzzy reasoning with a fuzzy conditional proposition ''if ... then ... else ... '' (pp. 211 - 223); M. Mukaidono, Fuzzy inference of resolution style (pp. 224 - 231); Henri Prade, Modal **semantics** and fuzzy set theory (pp. 232 - 246); Philippe Smets, Elementary **semantic** operators (pp. 247 - 256); H. Tanaka, T. Tsukiyama and K. Asai, A fuzzy system model based on the logical structure (pp. 257 - 274); E. Trillas [Enrique Trillas Ruiz], C. Alsina and L. Valverde, Do we need max, min and 1 - j in fuzzy set theory? (pp. 275 - 297); N. Blanchard, Fuzzy-lip functions - - the fuzzy-lip **category** (pp. 301 - 315); D. Dubois [Didier Dubois] and H. Prade, Towards the **analysis** and the synthesis of fuzzy mappings (pp. 316 - 326); Irwin R. Goodman, Fuzzy sets as equivalence classes of random sets (pp. 327 - 343); Ulrich Hohle, A mathematical theory of uncertainty (pp. 344 - 355); Aleksander A. Kania, Fuzzy transformation in terms of possibilistic measure (pp. 356 - 372); Aleksander A. Kania, Possibilistic measure, fuzzy trust and some properties of fuzzy transformations (pp. 373 - 388); E. P. Klement, On the **relationship** between different **notions** of fuzzy measures (pp. 389 - 394); Hung T. Nguyen, On the possibilistic approach to the **analysis** of evidence (pp. 395 - 401); S. E. Rodabaugh, The L-fuzzy real line and its subspaces (pp. 402 - 418); Y. Tsukamoto [Yahachiro Tsukamoto], M. M. Gupta [Madan M. Gupta] and P. N. Nikiforuk, On density of lambda-fuzzy measure (pp. 419 - 425); William H. Benson, An **application** of fuzzy set theory to **data** display (pp. 429 - 438); Yuji Enta, Fuzzy decision theory (pp. 439 - 449); Augustine O. Esogbue and Zikehi M. Ahipo, Fuzzy sets and water resources planning (pp. 450 - 465); Mohammad B. E. Fatmi and Paul P. Wang, Fuzzy detector and fuzzy estimator in communication (pp. 466 - 493); Joseph Fiksel, **Applications** of fuzzy set and **possibility** theory to systems management (pp. 494 - 503); K. S. Fu [King Sun Fu], M. Ishizuka and J. T. P. Yao, **Application** of fuzzy sets in earthquake engineering (pp. 504 - 523); J. Gouvernet, S. Ayme and E. Sanchez, Approximate reasoning in medical genetics (pp. 524 - 530); Janusz Kacprzyk and Andrzej Straszak, Determination of ''stable'' regional development trajectories via fuzzy decision-making model (pp. 531 - 541); Manfred Kochen, The origin of **concepts** in nervous systems: can fuzzy set theory clarify the questions? (pp. 542 - 550); Yee Leung, Market area separation in a fuzzy environment (pp. 551 - 561); Dan B. Rinks, A heuristic approach to aggregate production scheduling using linguistic variables: methodology and **application** (pp. 562 - 581); E. Sanchez, J. Gouvernet, R. Bartolin and L. Vovan, Linguistic approach in fuzzy logic of the W.H.O. **classification** of dyslipoproteinemias (pp. 582 - 588); Paul P. Wang and Masaki Togai, Fuzzy sensitivity **analysis** and synthesis technique (pp. 589 - 601); D. Willaeys, Optimal control of fuzzy systems (pp. 602 - 613); Ronald R. Yager, A useful bibliography for fuzzy sets (pp. 615 - 633). (The articles will not be reviewed individually.)

Reviewer: Editors
Review Type: Table of contents
Descriptors: *03-06 -Mathematical logic and foundations-Proceedings, conferences, collections, etc. ; 03B52 -Mathematical logic and foundations-General logic-Fuzzy logic (See also 94D05); 03E72 -Mathematical logic and foundations-Set theory (See also 04-XX)-Fuzzy sets (See mainly 04A72)

19/5/4   (Item 2 from file: 239)

Table of Contents

02347899 MR 84b#00009
  Applied systems and cybernetics. Vol. I, II, III, IV, V, VI.
  Proceedings of the International Congress on Applied Systems Research and Cybernetics held in Acapulco, December 12--16, 1980. Edited by George E. Lasker.

Applied systems and cybernetics,; Congress: Applied Systems Research and Cybernetics,; Acapulco, Vols. 1--6 International 1980
  Subfile: MR (Mathematical Reviews) AMS
  Abstract Length: LONG (331 lines)
  Contents: Vol. I -- The quality of life: systems approaches: I. Inaugural addresses (3 papers including the following): Emilio Rosenblueth, Systems, cybernetics, and subjectivity (pp. 1 - 4). II. Quality of life: **concepts** & views (4 papers). III. Quality of life: dimensions and indicators (5 papers). IV. Improving quality of life: methodological **concepts** (4 papers). V. The human system and the quality of life (5 papers including the following): Bela H. Banathy, The quality of life and emerging directions of change in our **conception** of human systems (pp. 114 - 118). VI. Quality of life and the individual person (7 papers including the following): William Gray, Aristide H. Esser and Lucille R. Gray, The human knowledge process as a system forming general system (pp. 136 - 143). VII. Social systems and the quality of life (6 papers). VIII. Social values, ethics and lifestyles in quality of life (5 papers including the following): Charles R. Dechert, Functionality, values **ordering** and decision in social systems (pp. 218 - 227). IX. Quality of life: cross-national and cross-cultural **analysis** (8 papers). X. Law and the quality of life (4 papers). XI. Quality of life education (8 papers). XII. Quality of life in political perspective (4 papers). XIII. Quality of working life (7 papers). XIV. Human kinetics, sports and the quality of life (7 papers). XV. Quality of life and the future (5 papers). XVI. Quality in living spaces (3 papers). XVII. Energy problems and quality of life (1 paper). XVIII. Peace and quality of life through cultural development (6 papers). Vol. II -- Systems **concepts**, models and methodology: I. Current thinking in system science and cybernetics (5 papers including the following): Stuart A. Umpleby, Some implications of cybernetics for theories of social systems (pp. 575 - 578); Alfred Kuhn, Let's bring the skeleton out of the closet (pp. 579 - 591); Giuseppe Cipollina Mangiameli, Cybernetique et revision philosophique [Cybernetics and philosophical revision] (pp. 597 - 601). II. Systems **concepts** (10 papers including the following): Alex M. Andrew, The **concept** of a **concept** (pp. 607 - 612); Manfred Kochen, Appropriate approximation in **concept** genesis (pp. 613 - 618); Bernd Schmeikal, Self- reference sociogony (pp. 642 - 646). III. Systems models and theories (7 papers including the following): B. H. Voorhees, Mathematical theory of hierarchical systems (pp. 662 - 666); Maria Nowakowska, Observability and change (pp. 692 - 696); Robert Vallee, Memorization in systems theory and the **perception** of time (pp. 697 - 700). IV. Epistemology in systems science and cybernetics (3 papers). V. Behavior modeling (5 papers including the following): Charles A. Fink, Now we can return to basic measures in human behavior modeling (pp. 720 - 727); W. H. Tack, Domination in experiments on cooperative games without side payments (pp. 728 - 732); S. Lakshmivarahan and K. S. Narendra, A learning approach to the two-person zero-sum sequential games with incomplete and imperfect **information** (pp. 741 - 745); Fernando Menezes Campello de Souza, On the structure of probabilistic models for binary choice behavior (pp. 746 - 759). VI. Learning systems (7 papers including the following): Gordon Pask, In contrast to Scandura: an essay upon **concepts**, individuals and interactionism (pp. 760 - 769); C. B. Balogh and M. E. Balogh, Natural deduction in a learning system (pp. 780 - 784). VII. Decision systems and **analysis** (10 papers including the following): N. Callaos, W. Lesso and B. Callaos, Mathematical solution to the voter paradox (pp. 841 - 847). VIII. **Information** systems (7 papers). IX. Systems research methodology (18 papers including the following): George J. Klir, Systems methodology: from youthful to useful (pp. 931 - 938); Roger E. Cavallo and George J. Klir, Systems of overall possibilities:

reconstruction aspects (pp. 939 - 946); Roger C. Conant, Combinatorial constraints on structure **analysis** (pp. 947 - 952); F. M. Sim, Y. Takei and L. D. Spence, Explicating loose coupling (pp. 958 - 963); R. Gerardy, On the complexity of paradigms (pp. 964 - 969); Robert W. House, On methods to improve the efficiency of structural modeling (pp. 970 - 975); Lise Lafreniere, Arithmetical models for systems with inbuilt freedom (pp. 976 - 980); P. A. S. Veloso and M. A. Lopes, A framework for problem solving: theory and methodology (pp. 989 - 993); Agostino Villa, Problems of feedback control of uncertain systems: learning and control action (pp. 1002 - 1007); Th. Moulin, L. Nottale, Cl. Vallet and H. Le Guyader, Modelization of natural systems by arithmetical **relators** : new results (pp. 1027 - 1031); James W. Haefner and John M. Pye, Model to test Simon's conjecture: hierarchical versus nonhierarchical systems (pp. 1032 - 1041); C. Bogdanski, **Analysis** of properties in natural (abiotic and biotic) systems; dimension basis of their differentiation in principal types and the standardised method of modeling them (pp. 1042 - 1046). X. Systems reliability and maintenance **analysis** (8 papers including the following): J. G. Shanthikumar, **Matching** detection and correction routines in reliability improvement (pp. 1078 - 1082). Vol. III -- Human systems, sociocybernetics, management and **organizations** : I. Human systems and institutions (10 papers including the following): L. R. Amey and G. A. Whitmore, Performance measures for sociotechnical systems (pp. 1102 - 1108); C. D. Peterson, Human purposing and a cybernetic society (pp. 1109 - 1113). II. Management and **organization** in human systems (14 papers). III. Sociocybernetics (5 papers including the following): John A. Busch and Gladys M. Busch, Cybernetics IV: a system-type applicable to human **groups** (pp. 1238 - 1243); Harry Perlstadt, On the incorporation of the nonrational into socio-cybernetics and complex systems (pp. 1256 - 1262); Henri Atlan and Jean Pierre Dupuy, Mimesis and social morphogenesis: violence and the sacred from a systems **analysis** viewpoint (pp. 1263 - 1268). IV. Psychocybernetics and systems research in behavioral science (8 papers including the following): A. J. Fielding, An open system model of personality (pp. 1269 - 1273); A. Powell, J. R. Royce, B. Voorhees and J. Tyler, Personality as a complex hierarchical **information** processing system (pp. 1274 - 1279). V. Social interaction and human development (7 papers including the following): Gordon Pask, Developments in conversation theory; actual and potential **applications** (pp. 1326 - 1338); Stein Braten, Time and dualities in self-reflective dialogical systems (pp. 1339 - 1348). VI. Human service-delivery systems (11 papers). VII. School systems and education (4 papers). VIII. Human values and beliefs in systems perspective (5 papers). IX. Cultural **perceptions** (5 papers). X. Social development and urbanization: a systems perspective (6 papers including the following): Geoffrey Bannister, Revenue determination for dynamic industrial location models (pp. 1566 - 1577). XI. Behavioral and systems approach to historical **analysis** (2 papers). XII. Human systems: future perspectives (7 papers). Vol. IV -- Systems research in health care, biocybernetics and ecology: I. Health care **concepts** (5 papers). II. Health care systems and models (5 papers including the following): Norman P. Archer and George W. Torrance, A maintenance policy model for artificial heart pacemakers (pp. 1700 - 1704). III. Systems and cybernetic models of nursing (7 papers including the following): June C. Abbey, Update of general systems theory: a framework for nursing (pp. 1715 - 1718). IV. Health care systems **analysis** (4 papers). V. Systems research in medical diagnostics and therapy (6 papers including the following): J. Gouvernet, S. Ayme and E. Sanchez, Approximate reasoning in medical genetics (pp. 1766 - 1771); M. Moeschberger, M. Farhanghi, C. Gehrke and K. Kuo, **Application** of statistical methods to diagnostic screening of patients (pp. 1772 - 1775); K. O'Mara, K. V. Leung, T. Fancott and S. Klasa, An algorithm for the nonlinear least-squares **analysis** of the single breath nitrogen washout curve (pp. 1781 - 1788). VI. Stress and the behavioral aspects of health (4 papers). VII. Computer-aided **analysis** and modeling of biosystems (3 papers including the following): W. Duchting and G. Dehl, Recent advances in modeling and simulation of spatial tumor growth (pp. 1824 - 1828); T. Kasvand and C. M. Merritt, Computer assisted human and plant chromosome karyotyping (pp. 1829 - 1843); E. Bernard-Weil and Y.

Cherruault, **Separate** or combined agonistic-antagonistic models. A new approach to the optimal control. Medical implications (pp. 1844 – 1849). VIII. Systems research in biocybernetics (12 papers including the following): Carol A. Niznik, A probabilistic model for neural path delay prediction (pp. 1850 – 1855); Jorge Monroy B., Low level neural networks emulator (pp. 1856 – 1858); R. Moreno-Diaz and F. Rubio Royo, Towards a theory of visual processing in vertebrate retina (pp. 1859 – 1864); Jonathan V. **Post** , Enzyme system cybernetics (pp. 1883 – 1888); A. Cheruy, Models for the control of a fermentation process (pp. 1889 – 1894); J. Alvarez and J. M. Ricano, Identification and control of a continuous culture SCP fermentation process (pp. 1895 – 1899); Jaime Alvarez Gallegos and Joaquin Alvarez Gallegos, **Application** of nonlinear control theory to a fermentation process (pp. 1900 – 1905); Roger V. Jean, A new approach to a problem of plant growth (pp. 1906 – 1910). IX. Ecological systems: modeling and simulation (10 papers including the following): W. G. Cale, Jr. and H. H. Shugart, Ecological reality and model validation (pp. 1911 – 1918); Miguel F. Acevedo L., Modeling ecosystems subject to periodic and sudden disturbances (pp. 1927 – 1931); A. Cheruy and E. Gleason-Garcia, Model of a biological waste water treatment plant (pp. 1957 – 1962); S. Gentil, **Applications** of systems theory to ecological modelling (pp. 1963 – 1967); William C. Hoffman, Environmental psychology, ecological psychology, and the geometry of systems (pp. 1968 – 1972); P. L. Antonelli, Huxley's allometric **space** for an **ideal** coral reef or forest (pp. 1973 – 1978). X. Systems approach to environmental quality (5 papers including the following): R. V. Varadarajan, On the role of optimization in environmental systems **analysis** –– a case study (pp. 1979 – 1988); J. T. Finn, Comparison of flow **analysis** in ecosystems and human societies (pp. 1989 – 1996). XI. Management of ecological systems (4 papers including the following): C. F. Cooper and T. H. Moss, Uncertainty and decision-making in ecosystem management (pp. 2013 – 2017); J. E. Powers and E. Tse [Edison Tse], Choosing an adaptive yield policy (pp. 2032 – 2036). XII. Environmental impact assessment (4 papers including the following): Thomas G. Hallam, Effects of competition and predation on diversity of communities (pp. 2054 – 2058). Vol. V –– Systems approaches in computer science and mathematics: I. National **information** resources and systems (5 papers). II. **Database** systems (10 papers including the following): S. K. Arora, S. R. Dumpala and K. C. Smith [Kenneth C. Smith], On the **semantics** of **data** dependencies in **relational data bases** (pp. 2144 – 2150). III. Computers, microcomputers and microprocessors (6 papers). IV. Computer **software** technology (4 papers). V. Distribution systems and processes (3 papers). VI. Natural and computer languages (6 papers including the following): Guy Jumarie, On the problem of the mathematical theorization of human systems dynamics (pp. 2272 – 2276); Douglas R. Skuce, Bridging the gap between natural and computer language (pp. 2277 – 2283); K. S. O'Mara, W. M. Jaworski and S. Klasa, On the development of a recursive model of word structure in the English language (pp. 2284 – 2290). VII. Man-machine interaction and communication (7 papers including the following): Ingbert Kupka, Pragmatics of **information** and man-machine cooperation (pp. 2303 – 2309). VIII. Artificial intelligence and automata theory (5 papers including the following): R. Moreno-Diaz, F. Hernandez-Guarch and J. M. Liminana, Formal neurons to synthesize arbitrary probabilistic automata (pp. 2360 – 2364). IX. **Information** retrieval (7 papers). X. Word processing (1 paper). XI. Pattern recognition and scene **analysis** (5 papers including the following): C. S. Kim and C. N. Shen, A recursive algorithm for smoothing by spline functions (pp. 2421 – 2427). XII. Simulation methodology (5 papers including the following): Jacob E. Samaan and Derrick S. Tracy, On the estimation of a discrete parameter in the M/M/m/n queueing system (pp. 2450 – 2456). XIII. Human factors (7 papers). XIV. CAI and education (4 papers). XV. Computers and the humanities (10 papers including the following): Ladislav Matejka, Trends in Soviet cybernetics (pp. 2587 – 2591). XVI. Mathematical **programming** (4 papers including the following): Louis G. Birta, Nonlinear **programming** : a survey of its use in improving the quality of life (pp. 2592 – 2602). XVII. Modeling and control of large scale systems (12 papers including the

(pp. 2945 - 2952).   VIII. **Possibility** theory and its **applications**
(4 papers including the   following): Henri Prade, Modal **semantics** and
fuzzy set theory (pp. 2953 -   2958); Hung T. Nguyen, On the possibilistic
approach to the **analysis** of   evidence (pp. 2959 - 2965).   IX.
Decision making (4 papers including the following): A. N. S. Freeling,
Fuzzy probabilities and the **value** of coherence (pp. 2991 - 2996).   X.
Repertory grid **analysis** : fuzzy set approach (3 papers).   XI. Fuzzy
sets **applications** (7 papers including the following): R.   Bosserman and
R. Ragade, Ecosystem **analysis** using fuzzy set theory (pp. 3033   - 3045);
Cl. Vallet, H. Le Guyader and Th. Moulin, Ambiguity and imprecision   in
arithmetical models of natural systems (pp. 3070 - 3075).   XII.
Descriptive models of political systems and processes (5 papers   including
the following): E. W. Kelley, Descriptive models: state of the art   (pp.
3082 - 3086); Thomas W. Casstevens, Flows in politics and government   (pp.
3092 - 3096).   XIII. **Analysis** of socioeconomic development: systems
approach (6 papers).   XIV. Economic systems modeling (8 papers).
XV. Systems modeling and **analysis** of agricultural development (3 papers).
XVI. Systems modeling for land use and resources planning (5 papers
including the following): Sam Sengupta and James G. Linders, Use of
Bayesian   models for land-use planning (pp. 3233 - 3245).   XVII.
Modeling of life support systems (4 papers).   XVIII. Global
socioeconomic problems (3 papers).   (The papers will not be reviewed
individually.)
   Reviewer: Editors
   Review Type: Table of contents
   Descriptors: *00A10 -General-General and miscellaneous specific topics-
Collections of papers (miscellaneous content)

   19/5/5   (Item 3 from file: 239)
DIALOG(R)File 239:Mathsci
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   01760240 MR 84k#03069c
   **Correction: ``Probabilistic semantics objectified. II. Implication in
probabilistic model sets''.**
   van Fraassen, Bas C.
   J. Philos. Logic
   Journal of Philosophical Logic,   1982,   11, no. 4, 465. ISSN:
0022-3611   CODEN: JPLGA7
   Language: English
   Document Type: Journal
   Journal Announcement: 1513
   Subfile: MR (Mathematical Reviews) AMS
   Abstract Length: LONG (39 lines)
   From the introduction of part I: ``Probabilistic **semantics** is the
study of languages in which the admissible valuations are identified as
probability functions. There is now a sizable body of work on this subject
in   which binary (conditional) **probability** functions are **defined**
directly on the   syntax; we refer to this as `pre-objective'. In what we
call `objective' probabilistic **semantics** , the syntax is interpreted in
a model or frame on   which the probabilities are **defined** . Part I studies
pre-objective **semantics** ,   with the dual aim of giving reasons to doubt
its sufficiency and of   displaying its essential structure as a
preliminary step toward   `objectification'. Section 1 contains brief
remarks on the philosophical   problems that motivate the study. The
remainder of part I proposes new   probabilistic **analyses** of some
familiar logics, ending with the conclusion   that there is no reasonable
pre-objective treatment of quantification. Part   II discusses arguments
with infinite sets of premises and gives some **idea** of   what the models
must be like, and part III will propose a model theory along   those
lines.''   From the introduction to part II: ``What is implication in
probabilistic   **semantics** ? Part I illustrates the general **program** of
(pre-objective) probabilistic **semantics** by **analyses** of classical and
intuitionistic   propositional logic and classical quantifier logic. This
involves a   **definition** of validity for single-premise arguments, but
only a necessary   condition for implication by (finitely or infinitely)

many premises. In part   II we examine the implication **relationship** in
complete generality.   ``The results force us to shift the focus of the
semantics from single   **probability** functions to natural classes of such
functions, called   probabilistic model sets. Only in such sets is
implication well behaved in   the infinitary case; they are sets closed
under the **relationship** of   subordination introduced in the last section
of part I. In these sets we can   identify algebras of propositions (sets
of **probability** functions, in analogy   to sets of possible worlds) and
find the first real inkling of what objective   probabilistic **semantics**
(`conceivable mind model theory') must be like.''   (The erratum
corrects the claim that the sixth **postulate** QVI follows from   the first
five.)
   Reviewer: Editors
   Review Type: Abstract
   Descriptors: *03B48 -Mathematical logic and foundations-General logic-
Probability and inductive logic (See also 60A05)

   Constructive functional analysis.
   Bridges, Douglas S.

Table of Contents

   This is a wonderful book, in the style of E. A. Bishop
[Foundations of constructive **analysis** , McGraw-Hill, New York, 1967; MR 36
#4930]; it is aimed at mathematicians, and hence contains a minimum of
logic, philosophy and special notations. The mathematics used is like
recursive   mathematics (r.m.), but with two differences: (1) considering
all recursive functions computable, the author (like Bishop) does not
restrict himself to   them, arguing that maybe physical experiments will
lead to a nonrecursive function, but he also leaves the **possibility**
that Church's thesis is true.   That is why all positive results of the
book are applicable to r.m., but,   unlike in r.m., the author is very much
restricted in proving negative   results: the only way is that of reduction
to a belief (not proof) that no   regular method for proving Fermat's
theorem, the Riemann hypothesis, etc.,   exists. To our mind, this
difficulty can be easily overcome: of course,   physical experiments can
lead to nonrecursive sequences (e.g., random in the   sense of Martin-Lof),
but all sequences, obtained from their **analysis** , are   recursive in some
fixed alpha (e.g., the sequence of results of all   experiments), and one
can easily check that all (even the most complicated)   results of r.m.
(positive and negative) remain valid if one changes   ``recursive'' to
``recursive in alpha '' in all definitions. That is why all   negative
results of r.m. can be used. (2) Problems in which there is
quantification over arbitrary sets (e.g., about **connectivity**) are
unclear,   because there is neither a **semantics** nor a formal system for
them.   Main results: Chapter 1: **Notions** of logic, computability,
sets, reals.   **Semantics** is realizability (like Kleene's), but: (a) with
``e is a proof of   p'' instead of ``e realizes p'' and (b) without fixing
any concrete class of   computations. What are usually called sets are here
called ``classes'';   ``sets'' are classes with an equivalence **relation**
(``sets with equality'' in   r.m. **terminology**); functions are
computations consistent with =. Chapter 2:   Metric spaces, located sets.
Classical summability criteria (Kummer's,   d'Alembert's, Gauss - Raabe)
turn out to be constructive. Three analogues of   classical **connectivity**
are given, all using quantifiers {all} A over sets,   their mutual

dependence investigated (but not **connections** with definitions   not using {all} A, e.g., metric **connectivity** {all} a, b {all} epsilon > 0 {exists} x{sub}0=a, x{sub}1, ... ,x{sub}n=b (rho (x{sub}i, x{sub}(i+1)) < epsilon) that is (classically) equivalent for compacts). Criteria of compactness are proved (compact {arlr} located and closed for A{lhk}R{sup}n and the Ascoli theorem). Unlike in Bishop's book (op. cit.), f: E{arrr}E' is   said to be continuous if   {all} epsilon > 0 {exists} delta > 0 {all} x{in}g(K) {exists} y{in}E   (rho (x, y) <= delta {arrr} rho (fx, fy) <= epsilon)   for any compact K and uniformly continuous g: K{arrr}E. Sections 8 – 10:   Locally compact spaces (this term is confusing; it means here (as in Bishop's book) that any ball is contained in a compact -- classically it is ``finitely   compact''). Chapter 3: Normed spaces and linear functionals. A linear   functional u is normable ({dvert}u{dvert} is computable) if and only if u. {sup}(- 1)(0) is located. A weak analogue of a separation theorem is proved: If C, C'{lhk}E are bounded, convex, E separable, Minkowski sum C – C'   located, rho (0, C – C') > 0 then there exists a separating u. epsilon –Hahn– Banach theorem: For any epsilon > 0 and for any normable u: F{arrr}R, F {lhk}E, there exists a normable u{sup*}: E{arrr}R, u{sup*}{vert}{sub}F=u, {dvert}u{sup*}{dvert} <= {dvert}u{dvert}+ epsilon . The weak topology is **defined** ; the closed ball in the weak dual is compact. Chapter 4: The algebra   C(x). Characters on C(x) are f f(x) for some x{in}X. The Stone – Weierstrass   theorem is proved. Chapter 5: **Integration** on locally compact spaces (in the   style of Bishop); Egorov's and Lebesgue's monotone and dominated convergence   theorems are proved. Chapter 6: Hilbert **space** . A linear subspace is located   if and only if there is a projection on it. The strong operator topology is   used for **defining** f (A) for selfadjoint A. The existence of common epsilon –   eigenvectors ({dvert}Ax – lambda x{dvert} < epsilon) for commuting operators   and of epsilon –spectral representations ({dvert}A – {sum} c{sub}kP{sub}k   {dvert} < epsilon , all projections P{sub}i commute) is proved; the Gel'fand representation of a C{sup*}-algebra turns out to be constructive. The epilogue is devoted to best approximation (existence of b{in}E such that rho   (a, b)= rho (a, E)). Appendix: Calculus, with Cauchy's theorem for differential equations. Many interesting results are included as problems. (Reviewer's remarks: (I) The author is almost unaware of Soviet works: We mention only the book by B. A. Kushner [Lectures on constructive mathematical   **analysis** (Russian), ``Nauka'', Moscow, 1973; MR 52 #53], with a large   bibliography, and the monograph by Phan Dinh Dieu [Trudy Mat. Inst. Steklov.   114 (1970); MR 46 #2383], where such important parts of mathematics as   locally convex topological spaces and distributions are constructivized. (II)   The author neglects the fact that many routine repetitions of classical   proofs can be changed to **applications** of a metatheorem of M. G. Gel'fond   [Zap. Nauchn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI) 32 (1972), 5   – 11; MR 49#8827] (or a recent one of Beeson) to classical results. This   makes all so-called epsilon i-theorems rather trivial: e.g., epsilon –   eigenvector: take a constructive denumerable dense (x{sub}n) in the unit   sphere; some x{sub}n is an epsilon -eigenvector classically, hence   constructively; so one can compute {dvert}Ax{sub}i – lambda x{sub}i{dvert}   with precision epsilon /2 for i=1, 2, ... and wait until {dvert}Ax{sub}i –   lambda x{sub}i{dvert} < epsilon -- this x{sub}i is the desired vector   (similarly for the Stone-Weierstrass theorem, epsilon –spectral theorems, etc.). Using Gel'fond's result, one can prove for uniformly continuous f on a   compact K that {turn}{sub}G {exists}!x(fx=0) (G a formal system for classical **analysis** , used by Gel'fond) implies {exists}x(fx=0). Corollary: If f{sub}i,   g: K{arrr}R are such that the best approximation {sum} alpha {sub}if{sub}i to   g is (classically) unique -- e.g., for polynomials -- then it is algorithmic   (see the reviewer's works [Abstracts of the IV Students' Scientific   Conference (Leningrad, 1975), pp. 19 – 21, Leningrad. Gos. Univ., Leningrad,   1975; see MR 56 #15245; `` **Categories** of **space** -time models'' (Russian),   Candidate Thesis, Novosobirsk, Gos. Univ., Novosibirsk, 1979] although the   author claims that his corresponding theorem ``ends the 100-year-old search   for a constructivist proof''). Other corollaries: (1) If T is a 1-dimensional   semigroup of automorphisms on compact K and {turn}{sub}G ({exists}! invariant   measure mu) then mu is computable. (2) For every compact Lie subgroup Gamma   of

a compact Lie **group** G there is a left-invariant mu on G/ Gamma . There are algorithms giving (3) a geodesic **joining** a, b in a compact Riemann **space** if it is classically unique, (4) the volume of the solution of Lebesgue's covering problem and this very solution if it is (classically) unique. (III) The overall impression one gets is in part that the book is ``too late'': It is clear now that constructive mathematics is far from the real **calculations** : when it claims that there is no algorithm (e.g., $x=0\{veebar\}x\{neq\}0$), computers do compute that; vice versa, every look-through algorithm is a computing procedure, but no one can really perform $2\{sup\}N$ steps for N >= 300. So further investigation of almost everywhere applicable algorithms and subrecursive **analysis** is necessary. For example, by a time polynomial (TP)- algorithm let us understand a pair consisting of an algorithm that finishes work with n after <= p(l(n)) steps (l=length) and a polynomial p (this class is closed under superposition). We will understand formulas constructively, but with TP-algorithms instead of arbitrary computations (then the Markov principle, induction, recursion and Carnap rule become valid, because $\{not\}$ $\{all\}x \{exists\}y(y=2\{sup\}x))$. Reals R and arithmetic operations with them, as well as convergence, are **defined** as in Bishop's work (op. cit.); in this sense R is complete, but the Leibniz convergence criterion for series is invalid. One can prove that any metric **space** can be completed. A function f(x) is a TP-computation, using x as an oracle, and consistent with =. R is a set of fixed point reals. Floating point reals $R\{sub\}2$ (pairs (n, x) with **semantics** $2\{sup\}n\{cdot\}x)$ are TP-nonequivalent (e.g., exp: $R\{arrr\}R$ is not TP, exp: $R\{arrr\}R\{sub\}2$ is; sin: $R\{arrr\}R$ is, but sin: $R\{sub\}2\{arrr\}R$ or R `$\{sub\}2$ is not). Equality of reals is undecidable. There is a TP-algorithm giving x with $\{vert\}f(x)\{vert\} < k\{sup\}(- 1)$ for any TP f: f(0) < 0 < f(1), but there is no TP-algorithm giving a root of such f. The existence of a TP-algorithm giving sup f for any uniformly continuous (TP-) f: $[0, 1]\{arrr\}R$ is equivalent to ``any look-through problem is TP-decidable'' (P=NP). If they are decidable, then Riemann **integration** is TP-computable. Further investigation is necessary. In spite of all that, the book is wonderful and the reviewer recommends it to anyone who wants to get acquainted with modern constructivism.)

Reviewer: V. Ja. Kreinovic
Review Type: Signed review
(Zbl 401:03027)

Descriptors: *03F65 -Mathematical logic and foundations-Proof theory and constructive mathematics-Other constructive mathematics (See also 26E40, 46S30, 47S30) ; 41A50 -Approximations and expansions (For all approximation theory in the complex domain, see 30E05 and 30E10; for all trigonometric approximation and interpolation, see 42A10 and 42A15; for numerical approximation, see 65Dxx)-Best approximation, Chebyshev systems; 41A65 -Approximations and expansions (For all approximation theory in the complex domain, see 30E05 and 30E10; for all trigonometric approximation and interpolation, see 42A10 and 42A15; for numerical approximation, see 65Dxx) -Abstract approximation theory (approximation in normed linear spaces and other abstract spaces); 46-02 -Functional analysis (For manifolds modeled on topological linear spaces, see 57N20, 58Bxx)-Research exposition (monographs, survey articles)

19/5/7   (Item 5 from file: 239)
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Table of contents

01668423 MR 82f#03002
Modern logic---a survey.
Historical, philosophical, and mathematical aspects of modern logic and its applications. Edited by Evandro Agazzi.
Contributors: Agazzi, Evandro
Publ: D. Reidel Publishing Co., Dordrecht-Boston, Mass.,
1981, viii+475 pp. ISBN: 90-277-1137-2
Series: Synthese Library, 149.
Price: Dfl. 130.00.
Language: English

The editor's preface declares that the purpose of these papers
(presented in Rome to the Italian Society of Logic and Philosophy of
Science in Sept. 1976) was ''to provide a general appreciation of modern
logic without need of any specific technical competence. In other words,
the cultural position and role of logic was hoped to become apparent,
rather than the exact patterns of its technical machinery.'' Perusal of
the table of contents shows that some of the best qualified and most
eminent mathematicians, logicians, and philosophers working in various
areas of logic have undertaken to **describe** the current state of their
specialty to nonspecialists. The papers will be commented upon in the
order of their appearance.   Contents: Evandro Agazzi, Preface (pp.
vii - viii).   Part 1. Introduction: J. M. Bochenski, The general sense
and character of modern logic (pp. 3 - 14); Stanislaw J. Surma, The
growth of logic out of the foundational research in mathematics (pp. 15 -
33).   Part 2. Pure logic: Kurt Schutte, Proof theory (pp. 37 - 43);
Angus Macintyre, Model theory (pp. 45 - 65); G. Kreisel, Constructivist
approaches to logic (pp. 67 - 91); Jon Barwise, Infinitary logics (pp. 93
- 112); A. Rose, Many-valued logics (pp. 113 - 129); Nuel D. Belnap, Jr.,
Modal and relevance logics: 1977 (pp. 131 - 151).   Part 3. The
interplay between logic and mathematics: E. Casari, Logic and the
foundations of mathematics (pp. 155 - 166); Gaisi Takeuti, Logic and set
theory (pp. 167 - 171); Hans Hermes, Recursion theory (pp. 173 - 195); A.
S. Troelstra, The interplay between logic and mathematics: intuitionism
(pp. 197 - 221); Jens Erik Fenstad, Logic and **probability** (pp. 223 -
233); Gonzalo E. Reyes, Logic and **category** theory (pp. 235 - 252).
Part 4. The relevance of logic to other scientific disciplines: Evandro
Agazzi, Logic and the methodology of empirical sciences (pp. 255 - 282);
Jaakko Hintikka, Standard vs. nonstandard logic: higher- **order** , modal, and
first- **order** logics (pp. 283 - 296); Corrado Bohm, Logic and computers
(pp. 297 - 309); Gerald J. Massey, Logic and linguistics (pp. 311 - 329);
M. L. Dalla Chiara [M. L. Dalla Chiara Scabia], Logical foundations of
quantum mechanics (pp. 331 - 351); L. Jonathan Cohen, Inductive logic,
1945 - 1977 (pp. 353 - 375).   Part 5. Logic and philosophical topics:
Czeslaw Lejewski, Logic and ontology (pp. 379 - 398); Georg Henrik von
Wright, Problems and **prospects** of deontic logic: a survey (pp. 399 -
423); Bas C. van Fraassen, Report on tense logic (pp. 425 - 438); R.
Stalnaker, Logical semiotic (pp. 439 - 456); Ch. Perelman, Logic and
rhetoric (pp. 457 - 463); Index of names (pp. 465 - 472); Index of
subjects (pp. 473 - 475).   In the opening paper J. M. Bochenski
distinguishes modern (symbolic, mathematical, or formal) logic from other
traditions of logic. The distinguishing mark of modern logic is that it
is mathematical, yet it differs from all other branches of mathematics
because of its greater generality, rigor, and intimate **connection** with
philosophy.   The title of S. J. Surma's contribution is misleading. The
author claims that mathematics and foundational research have been only
one source for developments in modern logic. In what follows, he gives
seven mathematical ways of selecting the theses of classical sentential
logic and that of Llukasiewicz. The seven ways are axiomatization,
natural deduction, dyadic trees, Gentzen sequents, use of a consequence
relation , selection by use of a **notion** of consistency, and selection
by use of a **notion** of completeness. The paper does offer clear
presentations of these methods and is suitable for the introductory part
of the book.   K. Schutte's report on work in proof theory is better
suited for Part 3 than Part 2 on so-called pure logic. After reminding us
that proof theory was established with Hilbert's **program** , and that
Godel's 1931 incompleteness theorem showed that the Hilbert **program** of
proving the consistency, by finitary methods, of particular branches of
mathematics could not be carried out for the most significant branches,
the author reports new directions in proof theory. He sketches the
development of the new directions set by Gentzen, which are proofs of
consistency by cut-elimination or near cut- elimination and
approximations to finitary proofs for parts of mathematics.   He provides a

brief but technical sketch of the use of transfinite induction   restricted
to certain transfinite ordinals in consistency proofs which   approximate
finitary proofs.   Angus Macintyre opens by proclaiming that a talk on
model theory is   misplaced in a section entitled pure logic. He writes:
''In my view model   theory is now a mathematical discipline increasingly
detached from   foundational questions.'9 The remainder of his paper is
addressed to those   mathematicians specializing in model theory. He
provides a historical survey   while pointing out present directions of
research. His observations are   enriched with references to a large
bibliography. This paper is, perhaps, a   suggestive synopsis for model
theorists. The average logician and philosopher   can profitably skim
through this paper to become acquainted with the current   **terminology**
and interests of model theorists.   G. Kreisel's paper on approaches to
constructivist logic indicates that he   gave a sparkling address to the
conference. Nevertheless, features such as   having a ''natural
conversational flow'' with several allusions and asides   which constitute
a brilliant oral presentation make it difficult to summarize   his paper
accurately. Insofar as this reviewer grasped some of Kreisel's   **ideas** ,
one of his main themes is that we should approach **applications** of and
studies about constructivist logics only if these **applications** and
metalogical studies are mathematically interesting for their own sake.
Kreisel considers the investigation of expressive and deductive
completeness   for constructivist logics to be interesting because such
investigations lead   to more comprehensive metalogical theories. The
negative aspect of this theme   denies the importance of revising
mathematical practice to conform to a   constructivist logic, as well as
the importance of investigating   constructivist logics because only such a
logic provides a firm foundation   for mathematical inference.   Jon
Barwise succeeds in reaching the goal of this volume while still   offering
something of interest to specialists in infinitary logic. He makes a   case
that we need to use   infinitely long formulas to express mathematical
ideas of finitude. He observes that after the failure of the Hilbert
program   there is no excuse for restricting attention to formulas which
can be treated   as finite objects. The general reader is presented with a
glimpse at logics   with infinitely long formulas, made aware that
investigations of such   languages are significant, and offered a useful
bibliography. Specialists are   offered sophisticated review remarks on the
omitting types theorem to support   a claim that ''the omitting types
theorem is one of the most basic results of   infinitary logic.'9
Specialists will be interested in the appendix showing   that Novikov's
theorem on regular formulas is correct.   A. Rose's report on
many-valued logics serves well this volume's purpose   of informing people
who have some familiarity with modern logic about a   special area of
modern logic and what is currently being done in that area.   After noting
how many-valued logics are used in independence proofs, the   author offers
a comprehensive survey of the systems of many-valued logics   originated by
 Post and Llukasiewicz. This survey, whose technical details   provide
clear and essential guides for the general reader, shows what many-
valued logics are and offers a vista of the vast extent of such logics.
There   is **information** about current work with reference to a
bibliography containing   major works since N. Rescher's 1965 bibliography
on many-valued logics [see   Many- valued logic, McGraw-Hill, New York,
1969; Zbl 248:02023]. There are   asides on interpreting multiple
truth-values in this well-written paper which   could even be used to
introduce students to many-valued logics.   In his nontechnical paper on
modal and relevance logics, Belnap offers   significant technical
challenges about relevance logics which can be readily   appreciated. He
outlines the development of the treatment of necessity and   **possibility**
in sentential logic, in first- **order** quantification theory, in   type
theory and set theory, in formal arithmetic, and in the **analysis** of
functions. He raises philosophical questions involved in interpreting
quantified modal formulas and challenges logicians to investigate use of
modalities in set theory. Besides surveying current work, the author
challenges logicians to tackle the decision problem for the sentential
system   E of entailment, to try to prove completeness for a first- **order**
quantified   entailment system, and to work with R. K. Meyer on the
development of   arithmetic based on an entailment logic. He closes with a

suggestion that we try to develop a relevant recursion theory.   As we move to Part 3, the title '6The interplay between logic and   mathematics'9 does not tell us precisely what to expect. E. Casari's informal paper is well suited as an introductory essay for Part 3 as well as being accessible to the general reader. The author discusses the use, in recent times, of logic in two types of work on the foundations of mathematics: rigorization and justification. Rigorization is the effort to re-express mathematical claims and reasoning clearly, precisely, and completely. Of course, people are frequently concerned with both types of foundational research. It could be said that Hilbert's **program** was an attempt to provide justification by showing that a rigorization was consistent. Takeuti's very short paper raises intriguing questions about set theories based on intuitionistic and quantum logics as well as on classical logic. The paper is primarily a call for new research in building set theories on such logics. It will be challenging to build a set theory on quantum logic because extensionality fails.   Hans Hermes gives a clear summary, for nonspecialists, of major results and areas of recursion theory. After explaining how decidability problems can be reduced to questions about computability, he briefly characterizes several **notions** of computability, takes note of the fact that these **notions** have been proved equivalent, and points out the significance of Church's thesis. The reader is told the **place** of the halting problem, the word problem, Hilbert's tenth problem, degrees of unsolvability, and degrees of complexity in **relation** to the theory of computability. The domino problem is explained.   There is an ample bibliography for this paper, which tells the general reader what recursion theory is.   A. S. Troelstra's paper on logic, mathematics, and intuitionism is a comprehensive report on current investigations of the intuitionistic way of doing mathematics and developing a logic. However, appreciation of the details requires technical work and presupposes familiarity with intuitionistic mathematics. Nevertheless, the general reader is offered an accessible account of difficulties with special intuitionistic mathematical objects such as free choice sequences and the **idealized** mathematician. There are comments on the way intuitionists base logic on mathematical practice and remarks on the current state of completeness proofs for intuitionistic predicate logic. A good bibliography is attached.   In his discussion of the interplay of **probability** theory and logic, J. E. Fenstad uses techniques and **concepts** which will not be familiar to nonspecialists to formulate claims and theorems. Fortunately, nonspecialists in this area can still attain an overview of recent uses of modern logic and its techniques to investigate **probability** . He divides his survey into three parts. The first discusses **probability** functions **defined** on formal languages, with especial reference to work of H. Gaifman. The second part surveys various **connections** between randomness and recursion theory. The final part gives a glimpse into the recent **applications** of nonstandard methods to the theory of stochastic processes. This topic involves representing infinite sequences by sequences of length k where k is a nonstandard (infinite) integer, and employs techniques of H. J. Keisler [Logic Colloquium 76 (Oxford, 1976), pp. 5 - 110, North-Holland, Amsterdam, 1977; MR 58 #10421].   In ''Logic and **category** theory'9 Gonzalo E. Reyes mentions the thesis that **category** theory provides a more comprehensive foundation for mathematics than does set theory. By now most mathematicians, logicians, and philosophers even slightly familiar with foundational studies are aware of this thesis. But many logicians, especially philosophers, lack a reasonably detailed **idea** of what the thesis says and why it is plausible. Unfortunately for the general reader this paper does not clarify the basic **notions** of **category** theory to the nonspecialist although it offers guides to the literature where the basic **ideas** may be acquired. The author addresses specialists by using topos theory to formulate rigorously the principle that in the infinitely small every function is linear. The argument for the principle involves use of a kind of infinitesimal. From this paper the average logician and philosopher receive a hint of the author's foundational position.   The papers of Part 3 have shown this reviewer that the use of modern logic for the type of foundational research which E. Casari called justification is   no longer an area of active interest.   Agazzi presents an **ideal** paper to

begin Part 4 on the relevance of logic   to other scientific disciplines.
With ample bibliographic references, he   gives a frank assessment of the
role of logic in understanding the   methodology of natural science. He
reviews the use of formal languages to   characterize scientifically
meaningful sentences, to distinguish between   theoretical and observation
terms and sentences, to display the kinds of   definitional **relations**
between scientific **concepts** , to clarify reduction of   theories, and to
eliminate theoretical terms. By reference to work through   the mid-1970s,
he also discusses the use of formal languages to understand   measurement,
the interpretation of scientific theories, and theory change. He   closes
by acknowledging that the formal languages of logic are only one means
for understanding some aspects of natural science.   Appreciation of J.
Hintikka's main point requires familiarity with the   basic **ideas** of
semantics for modal logics using frames consisting of systems   of models
(possible worlds). He makes a case that development of an adequate
semantics for logical necessity requires a restriction in our metalanguage
to   quantification over only some sets of possible worlds. He compares
this   restriction on quantification over sets of models to the restriction
of   quantification in nonstandard models of second- **order** logic to cover
only   certain subsets of the set of individuals. The comparison is used to
make a   case that a proper understanding of logical modalities, amongst
other **notions**   needing clarification, warrants more investigation into
the rather neglected   study of higher- **order** languages. Because of the
author's professional   stature, this paper may be an indication that in
the 1980s modern logic will   contain more studies of higher- **order**
languages than in the 1945 - 1979 period.   At first glance the
professed aim of C. Bohm's ''Logic and computers''   seems narrow. He
writes: ''The aim of this paper is to sketch the   introduction of
combinatory logic and lambda -calculus in a way that I hope   will be
satisfactory either from a tutorial or from an aesthetic point of   view
for both mathematicians and computer scientists. The **idea** is to extend
the **concept** of integer in **order** to reach that of combinatory integer,
or   adding variables to this **concept** , that of combinatory integer
form.'9 He   presents an interesting axiom system of combinatory integer
forms. He   develops this system to show that it is a fusion of combinatory
logic and   Church's lambda -calculus and that all recursive functions can
be represented   in it. The author does provide a few suggestions on how
such systems have **application** in computer science. For instance, a
single expression may be   either an operation (instruction) or an operand,
depending upon its position **relative** to other expressions. But to those
unfamiliar with machine languages   such suggestions are only slight hints
on how something recognizable as a   system of logic has **application** to
computers.   Gerald J. Massey's ''Logic and linguistics'9 with its
informative notes   and bibliography is one of the papers written in the
most appropriate way for   those seeking a sophisticated but nontechnical
overview of an area of modern   logic. While supporting his thesis that
logic bears to grammar the same **relation** that geometry bears to
physics, the author traces the **application** ,   since N. Chomsky's book
Syntactic structures, [Mouton, The Hague, 1957] of   formal languages to
represent the underlying forms of natural languages. He   observes how
linguistic considerations may influence the choice of a formal   language
to represent deep structures. The contention that the logic used is
intimately **connected** with linguistic theory is further supported by
arguments   that assessments of validity of natural language arguments
presuppose use of   a linguistic theory of correct paraphase.   In
''Logical foundations of quantum mechanics,'9 M. L. Dalla Chiara refers
to the major efforts in the 1960s and 1970s to formalize quantum theory,
QT.   Those who have not followed these efforts may find the details of
this paper   impenetrable. For instance, understanding her formalization of
physical   theories requires familiarity with the use of Borel sets and
Hilbert spaces.   Nevertheless, nonspecialists can reach an overview of how
a major obstacle to   understanding quantum mechanics is being by-passed.
The obstacle is to   understand how QT can encompass two different logics
(systems of justified   inference) in its deductive structure. She shows,
with formidable technical   details, how QT could be formalized and
interpreted so that the main theory   has classical logic while in a
subtheory of an extension of QT a nonclassical   logic such as the quantum

logic of Birkhoff and von Neumann can be introduced. The author acknowledges that showing how a single formalized and interpreted physical theory has two different logics in its deductive structure does not by itself provide an understanding of what is occurring when we can assert P by use of one logic but not by use of the other. Which logic should we use? She notes that it has been suggested that we can interpret assertability of P by use of this quantum logic as 'P is certain' or 'P is necessary' where necessity is interpreted in the modal system B of so-called Brouwer necessity. One could develop QT with a unified deductive structure which would be classical logic with system B as its modal extension. The author, however, seems resigned to working with a plurality of logics in physical theories. Jonathan Cohen's clearly written critical survey of the use of formal languages in the study of inductive logic, 1945 – 1977, perfectly fulfills the volume's purpose of informing nonspecialists. Nevertheless, enough detail is presented to warrant careful study of his arguments. A major task of inductive logic is to systematize inferences from statements of evidence e to hypotheses h where the e provide only some degree of support for the h. Once the inferences are systematized, a second major task is developing a theory of how such measures of degrees of **relative** support justify acceptance of hypotheses. The author labels ''Pascalian'9 those approaches to inductive logic which require the degrees of **relative** support for h from e, s(h/e), to obey the laws of classical **probability** . He shows how attempts of Carnap, Hintikka, I. Levi, K. Popper, and M. Hesse are all Pascalian. He argues that Pascalian approaches become entangled with Hempel's paradox of confirmation, Goodman's paradoxes, or the lottery paradox, besides being very misleading ways to an understanding of the practice of natural science. Cohen labels as ''Baconian'9 those approaches which include systematic features such as simplicity and the uniting of topics in assessing the support for a hypothesis, but which do not require degrees of hypothesis support to obey classical **probability** laws. The author sketches his own Baconian approach, according to which hypothesis support or '' **probability** '9 of a nonclassical sort obeys the laws of the modal system S4. In part I of his two part philosophical paper, Lejewski discusses ''in very general and informal terms, the nature of logic and ontology, and the **relationship** that seems to **connect** these two disciplines''. The author takes the position that the universally valid formulas of quantification theory express truths of any acceptable ontology because they are true of all things in all possible worlds. He suggests that truths about part/whole **relations** of Lesniewski's mereology are truths of ontology even if not purely logical truths. He points out that part of any justified ontology will be justifying claims that possible worlds have only one **category** of objects or that they have different **categories** of objects. In part II the question is: How are we to express ontological commitment in a formal language? Lejewski examines and compares which expressions reveal existence and how existence claims are expressed in classical quantification theory, in free logics, and in his system L4 with special nonclassical quantifiers. He argues that L4 offers the most expressive capability for asserting and denying existence. ''Problems and **prospects** of deontic logic: a survey'' by G. H. von Wright is a lucid survey of work on the logic for 'ought' and 'permitted'. After reading this paper a logician previously unfamiliar with deontic logic could start to do nonredundant work in this area. There are a few remarks on deontic logic before 1950. In 1950, O. Becker, J. Kalinowski, and von Wright began to develop deontic logic based on analogies with modal logics for necessity and **possibility** . The author comments upon the problems involved with the major approaches towards treating deontic logic as a modal logic. He makes some penetrating observations on some paradoxes and the ought-to-do versus ought-to-be distinction. He carefully dissolves Ross's paradox. The paper closes with a technical but readily accessible section in which von Wright develops in some detail his new approach in which being obligatory and being permitted are not treated as modal operators but as properties of individual actions. B. C. van Fraassen's survey of tense logic focuses on how tenses combine with modal operators and conditionals and on whether past and future operators can be eliminated in favor of operators which pay no attention to the direction of time. There are references to

other papers for more complete   development of approaches suggested in
this paper. But enough details are   presented for the reader to get a
clear **idea** of the issues **connected** with   mixing tenses with
modalities. One also gains an appreciation of the problems   involved with
tenses in counterfactuals and uses of the indexical 'now.' He   sketches
the basis for his conclusion that tense operators can be eliminated   in
favor of special sentence constants which have an irreducibly context-
dependent **meaning** plus operators which do not depend upon the direction
of   time.   There is an optimistic spirit in R. Stalnaker's lucid
nontechnical essay   on logical semiotic. Yesterday, up to the mid-1930s,
the study of the syntax   of formal languages attained mathematical
respectability, today the study of   the formal reconstructions of natural
languages has achieved mathematical   respectability, and tomorrow, in the
1980s, the study of the pragmatics of   formal representations of natural
languages in context will attain   mathematical respectability. The author
observes: ''Although pragmatics is a   more tentative field of study than
syntax or **semantics** , I believe the shape   of a theory which is capable
of rigorous development and fruitful **application**   is beginning to emerge
from the work of a number of philosophers, linguists,   and logicians.'9
The author promises: ''I will sketch some of the central   **concepts** of
this theory, of the formal apparatus which I think will be useful   in
explicating and developing these **concepts** , and some of the problems that
fall within the domain of the theory.'9 He keeps his promise by suggesting
how contexts of utterance could be represented as mathematically manageable
structures by being sets of possible worlds and individuals. He traces out,
with references to current literature, how such a **notion** of context could
be   used in understanding presupposition, the role of indexicals, and
dependence   of truth on context. This is a valuable proposal for
pragmatics; let us hope   that the **program** succeeds.   Ch. Perelman's
''Logic and rhetoric'' indicating the limitations of modern   formalized
deductive and inductive logic as tools for assessing the strength   of much
of the argumentation of daily life and business is a suitable   conclusion
for this volume surveying modern logic. The author reminds us that   there
needs   to be continuing work in that study which he has titled ''the new
rhetoric''. In this study, standards of correctness are developed for
assessing reasoning in the messy form in which it occurs in daily life.
On the whole, and to this reviewer's surprise, this volume succeeds in
offering to an average philosopher familiar with some modern logic an
intelligible overview of current work and problems in most areas
associated   with logic. The few misprints caused no serious confusion.
   Reviewer: Kielkopf, Charles F. (Columbus, Ohio)
   Review Type: Table of contents
   Descriptors: *03-06 -Mathematical logic and foundations-Proceedings,
conferences, collections, etc. ; 01A60 -History and biography (See also the
classification number --03 in the other sections)-History of mathematics
and mathematicians-20th century; 03-02 -Mathematical logic and foundations
-Research exposition (monographs, survey articles)

   19/5/8   (Item 6 from file: 239)

   01640984 MR 81k#68003   *Table of Contents*
   Mathematical foundations of computer science, 1980.
   Proceedings of the Ninth Symposium held in Rydzyna, September 1--5,
1980. Edited by P. Dembinski.
   Contributors: Dembinski, P.
   Publ: Springer-Verlag, Berlin-New York,
   1980, viii+723 pp. ISBN: 3-540-10027-X
   Series: Lecture Notes in Computer Science, 88.
   Price: $37.20.
   Language: English
   Document Type: Book; Proceedings
   Journal Announcement: 1309
   Mathematical foundations of computer science,; Symposium: Mathematical
Foundations of Computer Science,; Computer science; Rydzyna, 1980 9th

1980

From the foreword: ''The ninth symposium on Mathematical Foundations of
Computer Science (MFCS '80) was preceded by similar symposia held
alternately   in Poland (every even year) and Czechoslovakia (every odd
year). This volume   contains 7 invited papers and 46 short communications,
selected from 108   papers submitted to the symposium.''   Contents:
Invited lectures: Dines Bjorner, Formal description of   **programming
concepts** : a **software** engineering viewpoint (pp. 1 - 21); R. M.
Burstall, Electronic **category** theory (pp. 22 - 39); J. Hartmanis and S.
R.   Mahaney, An essay about research on sparse NP complete sets (pp. 40 -
57);   Robert M. Keller, Some theoretical aspects of applicative
multiprocessing   (pp. 58 - 74); C. K. Wong, On some discrete optimization
problems in mass   storage systems (pp. 75 - 93); Wm. A. Wulf, Abstract
data types: a   retrospective and **prospective** view (pp. 94 - 112).
Communications: A. Arnold and M. Nivat, Controlling behaviours of systems:
some basic **concepts** and some **applications** (pp. 113 - 122); G. Ausiello,
C.   Batini and M. Moscarini, **Conceptual   relations** between **databases**
transformed   under **join** and projection (pp. 123 - 136); X. Berenguer and
J. Diaz, The   weighted Sperner's set problem (pp. 137 - 141); E. Best,
Proof of a   concurrent **program** finding Euler paths (pp. 142 - 153);
Wolfgang Bibel, A   theoretical basis for the systematic proof method (pp.
154 - 167); J. Dean   Brock, Consistent **Semantics** for a **data** flow
language (pp. 168 - 180); Luca   Cardell, Analog processes (pp. 181 - 193);
Mario Coppo, An extended   polymorphic type system for applicative
languages (pp. 194 - 204); Wiktor   Danko, A criterion of undecidability of
algorithmic theories (pp. 205 - 218);   P. Degano, A. Lomanto and F.
Sirovich, On finding the optimal access path to   resolve a **relational
data   base** query (pp. 219 - 230); H. Ehrig, H.-J.   Kreowski, B. Mahr and
P. Padawitz, Compound algebraic implementations: an   approach to stepwise
refinement of **software** systems (pp. 231 - 245); David   Harel, On and/or
schemes (pp. 246 - 260); M. C. B. Hennessy and G. D.   Plotkin, A term
model for CCS (pp. 261 - 274); Berthold Hoffmann and Ilse-R.   Schmiedecke,
A mathematical approach to multipass **parsing** (pp. 275 - 290);   Ulrich L.
Hupbach, Abstract implementation of abstract **data** types (pp. 291 -
304); Joseph Ja'Ja' and Janos Simon, Parallel algorithms in graph theory;
planarity testing (preliminary version) (pp. 305 - 319); Ryszard Janicki,
On   atomic nets and concurrency **relations** (pp. 320 - 333); D. Janssens
and G.   Rozenberg, Node-label controlled graph grammars (extended
abstract) (pp. 334   - 347); Kurt Jensen, A method to compare the
descriptive power of different   types of Petri nets (pp. 348 - 361);
Herbert A. Klaeren, A simple class of   algorithmic specifications for
abstract **software** modules (pp. 362 - 374);   Norbert Kraft and Horst
Wedde, Inducing patterns of behaviour in distributed   system parts (pp.
375 - 386); Ingbert Kupka, Van Wijngaarden grammars as a   special
information processing model (pp. 387 - 401); Y. S. Kwong and D.   Wood,
Approaches to concurrency in B-trees (pp. 402 - 413); Burkhard Monien,   On
a subclass of pseudopolynomial problems (pp. 414 - 425); Horst Muller,
Decidability of reachability in persistent vector replacement systems (pp.
426 - 438); Seiichi Okoma, Generalized heapsort (pp. 439 - 451); Hiroakira
Ono and Akira Nakamura, Decidability results on a query language for **data
bases** with incomplete **information** (pp. 452 - 459); Peter Padawitz, New
results on completeness and consistency of abstract **data** types (pp. 460 -
473); Judea Pearl, Asymptotic complexity of game-searching procedures (pp.
474 - 487); Helena Rasiowa, Completeness in classical logic of complex
algorithms (pp. 488 - 503); H. Reichel, Initially-restricting algebraic
theories (pp. 504 - 514); Wolfgang Reisig, Schemes for nonsequential
processing systems (pp. 515 - 527); Jan Reiterman and Vera Trnkova, Dynamic
algebras which are not Kripke structures (pp. 528 - 538); Peter Ruzhichka,
Time and **space** bounds in producing certain partial **orders** (pp. 539 -
551);   Andrzej Salwicki, Axioms of algorithmic logic univocally determine
semantics of **programs** (pp. 552 - 561); V. Yu. Sazonov (V. Ju.
Sazonov), A logical   approach to the problem ''P=NP?'' (pp. 562 - 575); M.
W. Shields and P. E.   Lauer, Verifying concurrent system specifications in
COSY (pp. 576 - 586);   Joseph Sifakis, Deadlocks and livelocks in

transition systems (pp. 587 - 600); Giora Slutzki, Descriptional complexity of concurrent processes (preliminary version) (pp. 601 - 611); Stefan Sokolowski, A uniform approach to applicative and imperative features in **programming** languages (pp. 612 - 626); Zbigniew Suraj, A resource allocation problem (pp. 627 - 642); Tadao Takaoka and Alistair Moffat, An O(n{sup}2 log n log log n) expected time algorithm for the all shortest **distance** problem (pp. 643 - 655); M. K. Valiev, Decision complexity of variants of propositional dynamic logic (pp. 656 - 664); Paul M. B. Vitanyi, **Relativized** obliviousness (extended abstract) (pp. 665 - 672); M. Wirsing and M. Broy, Abstract **data** types as lattices of finitely generated models (pp. 673 - 685); Jacek Witaszek, The LR(k) **parser** (pp. 686 - 697); H. J. Genrich, K. Lautenbach and P. S. Thiagarajan, Substitution systems -- a family of system models based on concurrency (pp. 698 - 723). (The papers of mathematical interest are being reviewed individually.)
  Reviewer: Editors
  Review Type: Table of contents
  Descriptors: *68-06 -Computer science (For papers involving machine computations and programs in a specific mathematical area, see Section --04 in that area)-Proceedings, conferences, collections, etc.

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  01601897 MR 80m#68007
  Fundamentals of computation theory.
  Proceedings of the Conference on Algebraic, Arithmetic and Categorical Methods in Computation Theory held in Berlin/Wendisch-Rietz, September 17--21, 1979. Edited by Lothar Budach.
  Contributors: Budach, Lothar
  Publ: Akademie-Verlag, Berlin,
  1979, 576 pp.
  Series: Mathematical Research, 2.
  Price: MDN 72.00.
  Language: English
  Document Type: Book; Proceedings
  Journal Announcement: 1214
  Fundamentals of computation theory; Conference: Fundamentals of Computation Theory,; Conference: Algebraic, Arithmetic, and Categorical Methods in Computation Theory,; Computation theory; Berlin/Wendisch-Rietz,
    2nd International International 1979
  Subfile: MR (Mathematical Reviews) AMS
  Abstract Length: LONG (141 lines)
  The first conference has been reviewed (MR 57 #11147).)   From the preface: ''This volume constitutes the proceedings of the 1979 International Conference on Fundamentals of Computational Theory (''Algebraic, Arithmetic, and **Categorial** Methods in Computation Theory'') held in Wendisch-Rietz near Berlin, German Democratic Republic, September 17 - 21, 1979. The papers of this volume were either invited addresses or were selected, from more than 100 papers submitted in response to the Committee's call for papers, on the basis of both quality and relevance to areas of current interest. The contents of these proceedings have not been formally refereed. The authors are fully responsible. The papers were presented either as plenary talks or in one of the following sections: A. Algebraic and constructive theory of ma- chines, computations, and languages; B. Computation theory in **categories** ; C. Computability, decidability and arithmetic complexity. The conference was **organized** by the Central Institute for Mathematics and Mechanics of the Academy of Sciences of the German Democratic Republic and by the Department of Mathematics of Humboldt- University (Berlin).''
  Contents: Lothar Budach, Preface (pp. 5 - 6); Helmut Alt and Jan van Leeuwen, The complexity of complex division (extended abstract) (pp. 13 - 17); H. Andreka, I. Nemeti and I. Sain, Henkin-type **semantics** for **program** - schemes to turn negative results to positive (pp. 18 - 24); H. Antelmann, L. Budach and A. Rollik, Universal traps (pp. 25 - 30); Andre

416); Hans- Ulrich Simon, Word problems for **groups** and contextfree recognition (pp. 417 - 422); Peter H. Starke, Semilinearity and Petri nets (pp. 423 - 429); Kenichi Taniguchi, Toshio Matsuura, Yuji Sugiyama and Tadao Kasami, On equivalence of safe Petri nets (pp. 430 - 436); Thiet-Dung Huynh, On complexity measures which are induced by **probability** distributions (pp. 437 - 442); Walter Tholen, General machines and concrete functors (pp. 443 - 449); Vera Trnkova, Machines and their behavior in a **category** (pp. 450 - 461); Vera Trnkova and Jiri Adamek, Tree- **group** automata (pp. 462 - 468); G. E. Tseytlin (G. E. Ceitlin) and E. L. Yushchenko (K. L. Jushchenko), Automata theory and structural parallel **programming** (pp. 469 - 475); Dietmar Uhlig, **Relations** between the number of subfunctions and combinational complexity of Boolean functions and vector functions (pp. 476 - 482); Rutger Verbeek, On the naturalness of the Grzegorczyk hierarchy (pp. 483 - 490); Lutz Voelkel, Language recognition by linear bounded and copy **programs** (pp. 491 - 495); Hermann K.-G. Walter, Invariants of grammar transformations (pp. 496 - 507); Gerd Wechsung, The oscillation complexity and a hierarchy of context-free languages (extended abstract) (pp. 508 - 515); Klaus Weihrauch and Ulrich Schreiber, Metric spaces **defined** by weighted algebraic CPO's (pp. 516 - 522); Manfred B. Wischnewsky, On the equivalence of **concepts** in system theory. I. **Applications** of Kan-extensions over V- **categories** (pp. 523 - 536); Wojciech Zielonka, On the equivalence of Lambek's syntactic calculus and **categorial** calculi (pp. 537 - 541); Max I. Kanovich, A complexity version of Godel's incompleteness theorem (pp. 542 - 543); J. F. Perrot and J. E. Pin, Finite syntactic monoids (pp. 544 - 558); Kazimierz Kortas, Subgraph isomorphism is NQL-complete (pp. 559 - 564); L. Lovasz, On determinants, **matchings** , and random algorithms (pp. 565 - 574); Gunter Hotz, Necessary decidable conditions for the word and equivalence problem of formal languages (pp. 575 - 576). (The papers of mathematical interest which appear to be in final form are being reviewed individually.)
  Reviewer: Editors
  Review Type: Table of contents
  Descriptors: *68-06 –Computer science (For papers involving machine computations and programs in a specific mathematical area, see Section --04 in that area)-Proceedings, conferences, collections, etc.

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  Information processing 74.
   Proceedings of IFIP Congress 1974. Organized by the International Federation for Information Processing, and held in Stockholm, August 5--10, 1974. Edited by Jack L. Rosenfeld.
  Contributors: Rosenfeld, Jack L.
  Publ: North-Holland Publishing Co., Amsterdam-London; American Elsevier Publishing Co., New York,
  1974, xxi+1107 pp.
  Price: Dfl. 200.00; $76.95.
  Language: English
  Document Type: Book
  Information processing; IFIP Congress: Information Processing 74 (Proc. IFIP Congr., Stockholm, 1974) (Stockholm, 1974)
  Subfile: MR (Mathematical Reviews) AMS
  Abstract Length: LONG (153 lines)
  The papers in this collection are arranged under six main headings and 74 sub-headings (the latter are indicated in parentheses in the following partial table of contents): Jack L. Rosenfeld, Preface (p. v); Per Svenonius, Congress chairman's foreword (p. xvii); Herbert Freeman, Programme committee chairman's foreword (p. xix); H. Zemanek, Introduction (p. xxi).
   Computer hardware and architecture: (Computer hardware and software; Computer networks. I; Computer hardware. I; Computer design. I; Theory of

computer design; Hardware for computer graphics; Computer design. II; Fault diagnosis; Computer hardware. II; Hardware trends and future outlook; Computer networks. II; Switching problems) (pp. 1--174).

Software: (Software reliability; Software design; Programming systems; Measurements, performance and models of computer systems; Software system implementation; Improving memory utilization; System performance and optimization; Software problems in computer networks; Current topics in programming; General problems of programming; Scheduling and allocation; Data representation; Compiling techniques; Programming methodology. I; Procedures and block structures; Programming methodology. II; File structure and accessing) (pp. 175--444).

Mathematical aspects of information processing: (Differential equations; Formal models of parallel computation; Numerical analysis and symbol manipulation; Algorithms in graph theory; Combinatorial algorithms; Matrix computation; Software packages for numerical computation; Nonlinear programming; Logic and data bases; Models of natural language text; Numerical methods; Theory of computation; Approximation methods; Storage mapping algorithms; Automata theory; Numerical analysis; Computational complexity) (pp. 445--687).

Technological and scientific applications: (Pattern recognition; Computer graphics; Picture processing; Methods in pattern recognition; Computer-aided design; Artificial intelligence and control applications; Artificial intelligence) (pp. 689--833).

Applications in the social sciences and the humanities: (Analysis of literary texts; Computers and art; Computers in the humanities; Computer assisted instruction; Teaching computer science; Social implications; Natural language processing; Computers in social and economic development) (pp. 835--933).

Systems for management and administration: (Theoretical aspects of information systems for management; Design and implementation of management information systems; Economics of information processing; Files and data management; Data base management systems; Data base design; Business applications of information systems; Applications of interactive computing; Information systems for governmental administration; Control aspects of management and information systems) (pp. 935--1095).

IFIP Organization (pp. 1097--1098); IFIP Congress Organization Committee (p. 1099); Author index (pp. 1101--1103); Subject index (pp. 1105--1107).

Of the 214 papers in this collection, the following 61 will be reviewed individually: V. M. Glushkov [V. M. Gluskov], M. B. Ignatyev [M. B. Ignatev], V. A. Myasnikov [V. A. Mjasnikov] and V. A. torgashev [V. A. Torgasev], Recursive machines and computing technology (pp. 65--70); George B. Leeman, Jr., William C. Carter and Alexander Birman, Some techniques for microprogram validation (pp. 76--80); Wolfgang Coy, On the realization of arbitrary switching functions with a linear number of tests (pp. 165--167); Kurt Lautenbach and Hans Albrecht Schmid, Use of Petri nets for proving correctness of concurrent process systems (pp. 187--191); Martin Reiser and Hishashi Kobayashi, The effects of service time distributions on system performance (pp. 230--234); Kapali P. Eswaran, **Placement** of records in a **file** and **file** allocation in a computer network (pp. 304--307); R. M. Burstall, **Program** proving as hand simulation with a little induction (pp. 308--312); Jane W. S. Liu and C. L. Liu, Bounds on scheduling algorithms for heterogeneous computing systems (pp. 349--353); Niklaus Wirth, On the design of **programming** languages (pp. 386--393); C. William Gear, Estimation of errors and derivativs in ordinary differential equations (pp. 447--451); Pierre Borne and Jean Claude Gentina, **Definition** of a matrical transformation permitting the discretization of a set of differential equations (pp. 452--455); J. B. Rosen, Solution of boundary **value** problems by a weighted $L\sb 1$ minimization (pp. 456--460); Ashok K. Chandra, The power of parallelism and nondeterminism in gramming (pp. 461--465); James L. Peterson and Thomas H. Bredt, A comparison of models of parallel computation (pp. 466--470); Gilles Kahn, The **semantics** of a simple language for parallel **programming** (pp. 471--475); Josef Stoer, On the convergence behaviour of some minimization algorithms (pp. 476--482); Joel Moses, The evolution of algebraic manipulation algorithms (pp. 483--488); John D. Lipson, Flowgraphs and their generating functions (pp. 489--493); Matthew S. Hecht, Topological sorting and flow graphs (pp. 494--499); W. F. Smyth and W. M. L. Benzi, An algorithm for finding the

diameter of a graph (pp. 500--503); John Bruno, E. G. Coffman and Ravi Sethi, Algorithms for minimizing mean flow time (pp. 504--510); Alberto Martelli, An **application** of regular algebra to the **enumeration** of cut sets in a graph (pp. 511--515); G. Schmidt and Th. Strohlein, Some aspects in the construction of time-tables (pp. 516--520); Raul Carvajal, Modulus K check digits and the chromatic number problem (pp. 521--523); Patricia J. Eberlein, On a new use of elementary transformations (pp. 524--526); Youcef Saad, Shifts of origin for the QR algorithm (pp. 527--531); Frederic N. Ris, Computing rigorous upper bounds to the spectral radii of non-negative matrices (pp. 532--536); Claude Lemarechal, An algorithm for minimizing convex functions (pp. 552--556); David F. Shanno, Allen Berg and Grant Cheston, Restarts and rotations of quasi-Newton methods (pp. 557--561); Hubert Schwetlick, Minimizing nonlinear functions by descent methods (pp. 562--568); Robert Kowalski, Predicate logic as **programming** language (pp. 569--574); W. W. Armstrong, Dependency structures of **data base relationships** (pp. 580--583); L. A. Zadeh, Fuzzy logic and its **application** to approximate reasoning (pp. 591--594); John R. Rice, Parallel algorithms for adaptive quadrature---convergence (pp. 600--604); F. M. Larkin, Probabilistic error estimates in spline interpolation and quadrature (pp. 605--609); J. Vignes and M. La Porte, Error **analysis** in computing (pp. 610--614); Michael O. Rabin, Theoretical impediments to artifical intelligence (pp. 615--619); J. E. Hopcroft, Complexity of computer computations (pp. 621--626); Henry C. Thacher, Jr., Numerical **application** of the generalized Euler transformation (pp. 627--631); W. B. Gragg and G. D. Johnson, The Laurent-Pade table (pp. 632--637); Corrado Corradi and Guido Gambetta, A numerical method for estimating distributed lag models (pp. 638--641); Arnold L. Rosenberg, Computed access in ragged arrays (pp. 642--646); H.-D. Ehrich, Theory of direct-access storage functions (pp. 647--651); Taylor L. Booth, Design of minimal expected processing time finite-state transducers (pp. 652--656); Wolfgang Wechler and Vladimir Dimitrov, R-fuzzy automata (pp. 657--660); Takayasu Ito and Shigeru Ando, A complete axiom system of super-regular expressions (pp. 661--665); G. W. Stewart, The numerical treatment of large eigenvalue problems (pp. 666--672); Michael R. Osborne, On the numerical solution of boundary **value** problems for ordinary differential equations (pp. 673--677); Ronald L. Rivest, On the optimality of Elias's algorithm for performing best- **match** searches (pp. 678--681); Jacques Morgenstern, Linear tangent algorithms and lower bounds for the complexity of computation (pp. 682--684); J. F. Traub, Parallel algorithms and parallel computational complexity (pp. 685--687); E. Diday, A. Schroeder and Y. Ok, The dynamic **clusters** method in pattern recognition (pp. 691--697); Dermot H. McLain, Computer construction of surfaces through arbitrary points (pp. 717--721); Mamoru Hosaka, Fumihiko Kimura and Naotake Kakishita, A unified method for processing polyhedra (pp. 768--772); Nils J. Nilson [Nils J. Nilsson], Artificial intelligence (pp. 778--801); Lesley M. Daniel, And-or graphs and critical paths (pp. 818--822); Paul S. Wang, Symbolic evaluation of definite integrals by residue theory in MACSYMA (pp. 823--827); Aravind K. Joshi and Leon S. Levy, Local transformations (pp. 921--923); L. Hyafil, F. Prusker and J. Vuillemin, Design of optimal merge on direct access devices (pp. 979--982); Nikita N. Moiseev, Hierarchal structure in controlled dynamic systems: **concepts** and **prospects** (pp. 1085--1087); J. P. Quadrat, Numerical **application** of stochastic optimal control to inventory and investment problems (pp. 1088--1091).

\{The papers will be indexed both under the names of the authors and under the following title: Information processing 74 (Proc. IFIP Congress, Stockholm, 1974).\}

  Reviewer: Editors
  Review Type: Abstract
  Descriptors: *68-06 -Computer science (For papers involving machine computations and programs in a specific mathematical area, see Section --04 in that area)-Proceedings, conferences, collections, etc. ; 65-06 - Numerical analysis-Proceedings, conferences, collections, etc.
?t s19/5,k/11-13

written a chapter in the Ledingham book (with Yi-Hui Huang) on the
topic, as has Glen Broom, another member of the commission. In
addition, Lauri Grunig and I wrote an **insert** for a trade publication
in the Sept. 7, 1998, issue discussing the measurement of
relationships . Linda Hon (a third member of the commission), Kitty
Ward (participant in the first summit), and I are working on a paper
summarizing the work on **relationships** that the Institute may publish.

Agency: Linda Hadley Senior VP/Director of Research Porter/Novelli
The commission was created, of course, in response to increased
demand for standards for measuring the effectiveness of PR **programs** .
PR **programs** can and do have measurable impact on audience awareness,
attitudes and behavior. We on the agency side...

...important functions of the commission.
We need to: first, build recognition of the need to tie PR
programs more closely to the business objectives of our clients -
because when we do not, evaluating their success becomes a game of
Russian roulette; second, build our skills in setting **program**
objectives that are clear and measurable and that identify the best
role for PR in achieving business or **organizational** objectives, and
third, ...want may already have been done.
All you need to do is a literature search and secondary **analysis** .
Be flexible: Telephone polls and focus **groups** aren't your only
research channels.
Consider mall intercept studies, mail surveys, **analysis** of media
reports, online studies, face-to-face interviews and role-playing or
piggybacking on a large market research company's omnibus poll.
Define in advance how the results are going to be used.
Remember that for most PR practitioners, "why...

...the way they do and what it will take for them to
change their minds.
Give serious **thought** to the total population to be studied. If a
sample isn't randomly selected, then questions should...

...Hadley, Porter/Novelli

Research: Walter Barlow, Research Strategies Corp.,
John Gilfeather, Yankelovich Partners,
Katharine Paine, The Delahaye **Group** Inc.,
Mark Weiner, MediaLink
Academic: Dr. Glen Broom, San Diego State University,
Dr. James Grunig, University of...

 19/5,K/12 **(Item 2 from file: 696)**
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**XML/EDI VS. OBJECT ORIENTED-EDI TWO FUTURE EDI PROPOSALS VIE FOR ATTENTION
AMONG ASC X12 MEMBERS**
EDI NEWS
June 22, 1998   VOL: 12   ISSUE: 13   DOCUMENT TYPE: NEWSLETTER
PUBLISHER: PHILLIPS BUSINESS INFORMATION
LANGUAGE: ENGLISH   WORD COUNT: 1238   RECORD TYPE: FULLTEXT

        By most accounts the latest meeting of the American National   Sta
ndards Institute's Accredited Standards Committee X12 was one of   the qu
ietest on record. But just beneath the surface a

COMPANY NAME(S): American National Standards Institute ; ASC X12 ; Concepts
In A Technology ; Denver University ; DISA ; Electronic Commerce ; EDI ;
Gartner Group ; Graphic Communications Association ; Methodologies Working

Group ; POET Software ; RosettaNet Consortium ; Standards Association ;
Standards Institute ; Strategic Implementation Task Group ; Techniques ;
United Nation 's Center for Facilitation of Practices and Procedures ;
World Wide Web Consortium ; XML/EDI Group
TEXT:
...hyper-growth.
While the current user base is estimated to be 150,000, Stamford,
Conn.-based Gartner **Group** [GART] **calculates** the potential to be 6
million.
The next generation of EDI must be broadly interoperable, non-
proprietary, inex-pensive and easy to use.
Simply put, EDI must be convertible into off-the-shelf **software** .
ASC X12's Strategic Implementation Task **Group** - which met during
ASC X12's June 1 through June 5 trimester meeting in Columbus, Ohio -
is promoting a combination of object-oriented **software** technology
models called "business objects," a type of blue print of business
practices that can be followed to create EDI **software** .
The task **group** is using Framingham, Mass.-based Object Modeling
 Group 's Unified Modeling Language (UML) to model common business
practices behind the types of transactions EDI seeks to automate.
Meanwhile, in X12C - the Communications and Controls
Subcommittee - a permanent task **group** will map X12 transaction sets to
XML/EDI, a new marriage between the Extensible Markup Language and...

...in October 1997 by the Cambridge, Mass.-
based World Wide Web Consortium to head off a major **fragmentation** of
the Web into non-interoperable, proprietary fiefdoms.
Now XML, and its E-business cousin XML/EDI...

...end of May, just days before the ASC X12 meeting, two
Alexandria, Va.-based industry associations - the **Data** Interchange
Standards Association (DISA) and the Graphic Communications
Association - announced support for the XML/EDI effort.
DISA is the secretariat for ASC X12. The Graphic Communications
Association is a technical management **organization** in the publishing
and printing industries that has supported XML since its creation in
1997.
The Graphic Communications Association's research institute is
acting as the XML/EDI **Group** 's secretariat. The **group** is coordinating
work among different **organizations** interested in the new technology.

XML/EDI Gains Supporters

Supporters of the XML/EDI **Group** are sprouting up everywhere.
 Organizations that are working on XML/EDI in unison with the XML/EDI
 Group include the RosettaNet Consortium, W3C, CommerceNet and
UN/EDIFACT.
In a **related** effort, Denver University's Electronic Commerce
Department is collaborating with the XML/EDI **Group** to develop a pilot
XML repository system. The pilot is using San Mateo, Calif.-based
POET **Software** 's new POET CMS object oriented **data** store, which is XML
 document compliant and operates over the Web. Such repositories are a
crucial component of the overall XML/EDI
The EDI standards **group** for health care, HL7, has decided to
adopt XML/EDI, and the XML/EDI **Group** is soliciting other industry and
government enterprises and associations.
"My perspective is that XML/EDI being formally...

...X12,
that's going to definitely be the trend here in the states," says
Chuck Shih, technology **analyst** for Stamford, Conn.-based Gartner
 Group . "Not just DISA and X12 are adopting it, but a whole slew of
industry-specific folks are too. RosettaNet in the IT industry will
try to lay out the XML grammars and **semantic** repositories or common
business processes within the IT industry.
"If you listen to the XML/EDI **Group** , the ultimate vision is not
just to put up the **semantic** repositories, but also to put up common

ways of handling the messages; you know, Java applets, those kinds of
things that will actually work on the **data** ," he continues. "So that
becomes like an OO- (object oriented) model."
Shih thinks such a model would...

...EDI NEWS, May 12, 1997) proposed by Klaus-Dieter Naujok,
chairman of the Techniques and Methodologies Working **Group** of the
United Nation's Center for Facilitation of Practices and Procedures
for Administration, Commerce and Transport...

...similar to XML/EDI in that both seek ways to interface
with today's preferred method of **software** development, distributed,
object-oriented **programming** .
But while XML/EDI combines **programming** approaches to several
parts of the EDI puzzle, including ways to transport, format and
manipulate the **data** contained in the EDI message, oo-EDI sticks with
standardizing the business practices that must be modeled and turned
into EDI **applications** . That approach gives ASC X12 a clearly **defined**
role to play because the business processes are what it knows best.
The oo-EDI approach probably...

...adopted by CEFACT, while
XML/EDI will become popular in the United States, Shih says.
In practice, **data** interpretation will remain a problem with
XML/EDI, just as it is with standard EDI, says Doug...
...of X12I, the transportation subcommittee. Companies still will find
slightly different meanings in the same bits of **information** , Anderson
contends. Overcoming that problem is the reason the **concept** of
 semantic repositories was developed to begin with, but Anderson says
the problem will not be solved by them...

...still will be
interpretation problems, he says.

ASC X12 Members Learn UML

While X12C focuses on the **possibility** that XML/EDI might help
reduce the complexity of EDI, the Strategic Implementation Task **Group**
is promoting the Unified Modeling Language (UML) as a way to create
business objects that then can be turned into **software** using oo-EDI.
ASC X12 adopted the use of object modeling a year ago, and in April an
interim meeting of the task **group** decided to adopt UML as its
preferred modeling method.
As a result, more than 50 ASC X12...

...7000; Harry Featherstone, ASC 12, 703/917-7210; Kendra Martin, ASC,
202/682-8517; Chuck Shih, Gartner **Group** , 203/316-1111; David Webber,
the XML/EDI **Group** , 301/341-1749.)

XML/EDI: **Concepts** In A Technology Concert

The XML/EDI model capitalizes on many technologies. XML/EDI:
* uses the XML protocol as its **data** interchange modeling layer;
* uses the XML Style Language (XSL) protocol as its presentation
layer;
* can be **integrated** with traditional methods of EDI;
* can be used with all standard Internet transport mechanisms
such as Internet protocol routing, hypertext transfer protocol, **file**
transfer protocol and simple mail transfer protocol;
* allows for **document** -centric views and processing
methodologies;
* uses modern **programming** tools such as Java and ActiveX to
allow **data** to be shared between **programs** ; and
* uses agent technologies for **data** manipulation, **parsing** ,
 mapping , searching.
Source: XML/EDI **Group**

CAN BASIC SEMANTIC REPOSITORIES MAKE A COMEBACK? The International Standards Organization Is Betting On It
EDI NEWS
April 13, 1998   VOL: 12   ISSUE: 8   DOCUMENT TYPE: NEWSLETTER
PUBLISHER: PHILLIPS BUSINESS INFORMATION
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        Future EDI is nothing without simple, inexpensive applications   to
attract small and medium enterprises to adopt the technology. Some hope t
he revival of basic semantic repositories (BSR)

COMPANY NAME(S): American National ; ANSI ; Department of Defense ;
Environmental Protection ; EDI ; Fairmont ; Harbinger Corp ; International
Standards ; ManTech Advanced System International Inc ; Standards Institute
; University of Denver ; XML/EDI Group

TEXT:
Future EDI is nothing without simple, inexpensive **applications**
to attract small and medium enterprises to adopt the technology. Some
hope the revival of basic **semantic** repositories (BSR) may achieve that
end.
Once a darling of EDI standards bodies, BSR now polarizes
industry...

...manager for Atlanta-based Harbinger Corp.'s
[HRBC] Premenos division.
Others are equally convinced of BSR's **value** .
"BSR is doing a useful job of cataloging what exists in
traditional EDI," says David Webber, an **information** technology
consultant with a Washington practice.
At the center of this tumultuous struggle is Denis Hill, basic
 semantic repository project manager for the International Standards
 Organization . The Geneva-based **organization** is the international body
to which standards **groups** from around the world belong.

Coming To America

Hill's objective is to reintroduce **semantic** repositories to U.S.
EDI users and developers, proving the **concept** still has a role to play
in future EDI efforts. Hill **defines** a basic **semantic** repository as an
internationally approved register of multilingual **data** **concepts** with
its accompanying technical infrastructure. In other words, Hill wants
to create a **database** of EDI business terms in multiple languages and
multiple **data** formats.
While each major form of EDI has its own official **dictionary** of
 data elements, Hill's repository would translate amongst them. EDI
messages in German would be a snap to...

...The goal is to make BSR the international EDI Rosetta stone.

Humble Beginnings

Development of the BSR **concept** began in 1990. Before that time
there were several EDI directories, including American National
Standards Institute's...

...s EDIFACT.
Naujok, a founder of the project, supports the decision in 1996
by U.N. EDI **groups** and New York-based ANSI's EDI **group** to end their

participation in the effort.
"We realized that that was not an achievable goal," Naujok says.
"It would be too complicated."
Hill's **concept** of BSR was too broad, Naujok says, going way
beyond the original **conception** .
Naujok now is committed to the development of object-oriented
EDI. Sponsored by the United Nations and ANSI, the next-generation
project is modeled on user-friendly object **programming** .
"We had hoped that [BSR] would help X12 and EDIFACT align,"
Naujok says. "We have finished that...

...of Fairmont, W.Va.-based
ManTech Advanced System International Inc. Mantech is principle
developer of the Universal **Data** Element Framework, a project funded by
the Department of Defense's Continuous Acquisition and Life-cycle
Support (CALS) **program** .
"It was ...harmonized with STEP
[Standard for the Exchange of Product] and that there is a body of
existing **maps** and bridges from X12 to EDIFACT," he says.
Hill also met with officials of the Environmental Protection
Agency and representatives of the XML/EDI **Group** .
Webber, along with other EDI mavericks, founded the Internet-
based XML/EDI **Group** to create an EDI **application** from Extensible
Markup Language.
A new scripting tool for easily developing interactive Web
pages, XML has found an adoring audience in the EDI world. As a
result, the XML/EDI **Group** is growing into a major association.
"The other thing BSR provides is an initial base or foundation...

...Webber says.
If Hill could attract heavy hitters on the federal level, he
would have a better **chance** of converting developers and users.

Attempting To Work Hand In Hand

Hill hopes to develop BSR into a tool that will make EDI
applications cheaper and simpler. Furthermore, he says BSR can help
develop object-oriented EDI.
"Whether you are in the current **relational** **database** environment
or in the object-oriented **data** environment, you still need to name and
define your **data** , and you need to identify it," Hill says. "This is
going to be required whether you do...

...So I think it's
pivotal, but it will need wide scale acceptance."
Bruce Peat, XML/EDI **Group** co-founder, says BSR is an important
adjunct in his **group** 's attempt to create an inexpensive, simple EDI
application .
"I think BSR fits in really well with XML," Peat says. "Denis
[Hill] has spent an awful...

...with Hill on a position paper to explore
such an opportunity. They are also working with a **group** at the
University of Denver to create a working basic **semantic** repository,
says Webber. (Mike Evanoff, Denis Hill, ISO, 41 22/749-7233; Klaus-
Dieter Naujok, Harbinger, 510...